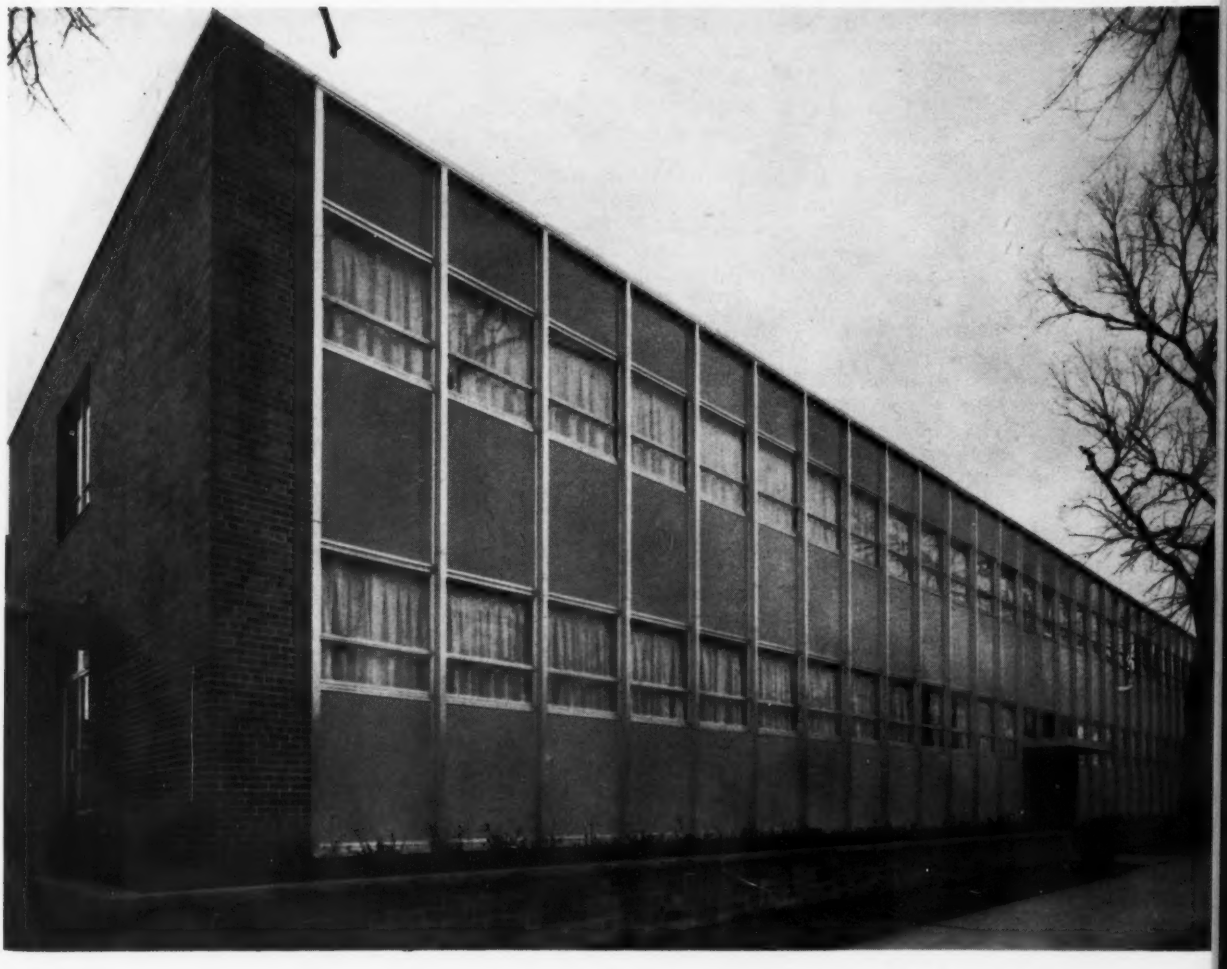
Educational Supplement

January 1959, Pages 1 to 16 Volume 11, Number 1

Contributed by

The Office of Education of the American Osteopathic Association



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EDUCATIONAL SUPPLEMENT

The Office of Education of the American Osteopathic Association

Editorial Office, 212 E. Ohio St., Chicago 11. Address all communications to the Chicago Office.
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Cover Picture.—The new Outpatient Clinic of the Kansas City College of Osteopathy and Surgery was dedicated on April 21, 1958. The cost of this Clinic was met by funds from the Federal Government through Public Law 482 and gifts from the alumni of the College and the public. The Clinic provides health services to the public and opportunities for members of the upper classes to gain first-hand experience under careful supervision in supplying health care to patients.

The departments of the Clinic are staffed by members of the College and hospital staffs. The departments include the Divisions of Medicine; Surgery; Obstetrics; X-ray; Physical Therapy; Neuropsychiatry; Ear, Eye, Nose, and Throat; and clinical laboratories. This new building greatly increases the clinical facilities of the College and hospital.

OSTEOPATHIC EDUCATION

LAWRENCE W. MILLS, Director, Office of Education
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Osteopathic college enrollment 1958-59

Applications for admission to osteopathic colleges for the academic year starting in the fall of 1958 showed an increase over the previous year, and for the first time surpassed the number of applications which reached a peak in 1951, when 85 per cent of the applicants were veterans of World War II, with G.I. benefits for professional training; 16 per cent of the entering class in 1958 had such benefits. It is also pointed out that 30 per cent of the applicants in 1951 had completed only 2 years of preprofessional training, which at that time represented the minimum requirements of osteopathic colleges.

The economic recession, which affected many parts of the country, resulted in a larger number of postponements and cancellations than occurred among the applicants who were accepted in 1957. In 1957 several osteopathic colleges adopted the policy of granting acceptances to a little more than 10 per cent in excess of first-year capacity in order to assure a full class. The percentage of cancellations for the 1957 class was the lowest of any since World War II, and consequently several colleges started the school year with overfilled classes. There apparently is no sure way for professional schools to predict accurately the number of accepted students, who have paid a deposit on their first-year tuition, who will either cancel out or ask for postponement of their admission.

The over-all enrollment of the six osteopathic colleges for the school year 1958-59 of 1,942 is the largest in recent history.

TABLE I—ENROLLMENT 1958-59

	First-Year Students	Second-Year Students	Third-Year Students	Fourth-Year Students	Total
CCO	64	62	63	57	246
COMS	75	76	54	53	258
COPS	90	108	79	84	361
KC	103	106	93	100	402
KCOS	105	91	66	86	348
PCO	79	78	83	87	327
Total	516	521	438	467	1,942

The abbreviations used for the osteopathic colleges in all the tables in this Supplement are as follows:
CCO—Chicago College of Osteopathy
COMS—College of Osteopathic Medicine and Surgery, Des Moines, Iowa
COPS—College of Osteopathic Physicians and Surgeons, Los Angeles
KC—Kansas City College of Osteopathy and Surgery
KCOS —Kirksville College of Osteopathy and Surgery
PCO—Philadelphia College of Osteopathy

Graduating classes

In the spring of 1958 the six osteopathic colleges graduated 438 students, which represented a drop of approximately 24 graduates from the number graduated in 1956. The entering class in 1954 suffered slightly over 10 per cent attrition by the time it graduated in 1958. In the spring of 1959 approximately 470 osteopathic students will graduate, the largest graduating class since 1941.

TABLE II—GRADUATING CLASSES

College	Number of Graduates 1958	Estimated Number of Graduates 1959
CCO	46	57
COMS	48	55
COPS	86	84
KC	85	100
KCOS	78	86
PCO	95	87
Total	438	469

Enrollment since 1949

Table III shows the undergraduate enrollment in the six osteopathic colleges since 1949. The educational fund-raising program of the American Osteopathic Association; the increasing amount of financial assistance provided by the United States Public Health Service in the form of teaching grants to augment cancer, cardiovascular disease, and psychiatric training; and gifts from the lay public have made it possible for the six osteopathic colleges to increase enrollment capacity by more than 400 students since 1948. This represents a 27 per cent increase in student enrollment.

During this period the total number of osteopathic college faculty members has increased 56 per cent; the number of full-time salaried faculty members has increased 112 per cent; and the total value of teaching facilities, including laboratories, classrooms, and clinical training centers, has increased 230 per cent.

TABLE III—ENROLLMENT SINCE 1949

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
CCO	215	242	237	240	221	223	235	232	239	246
COMS	264	292	278	254	246	227	226	218	241	258
COPS	336	356	359	348	344	336	346	355	368	361
KC	248	222	318	342	365	366	378	370	381	402
KCOS	386	410	374	368	343	331	319	316	339	348
PCO	329	354	362	365	378	384	379	375	353	327
Total	1778	1876	1928	1917	1897	1867	1883	1866	1921	1942

Women students in osteopathic colleges

Table IV shows the distribution of women students in the various osteopathic colleges by classes.

TABLE IV—NUMBER OF WOMEN IN OSTEOPATHIC COLLEGES, 1958-59

College	First-Year Students	Second-Year Students	Third-Year Students	Fourth-Year Students	Total
CCO	2	0	2	1	5
COMS	2	1	0	0	3
COPS	3	4	2	0	9
KC	1	0	4	3	8
KCOS	3	2	2	2	9
PCO	1	1	1	1	4
Total	12	8	11	7	38

There was an increase of three women in the entering class of 1958 over the entering class of 1957. The academic year 1958-59 is the first year since World War II which shows an increase in the number of women students in osteopathic colleges.

The study and training required for men and women in osteopathic education are the same. Professional careers in osteopathic medicine result in the same remuneration for women as for men. In the osteopathic profession women occupy high offices in professional organizations and serve on faculties of osteopathic colleges and on hospital and clinic staffs.

The admissions committees of osteopathic colleges report that the ratio between acceptances and applications is actually higher for women than it is for men at present.

Preprofessional training of first-year students

Table V lists the preprofessional colleges by states where first-year students in 1958 received their required training for entrance into osteopathic colleges. Some of these students attended more than one undergraduate college. The undergraduate colleges listed, therefore, represent those colleges where the first-year students in osteopathic colleges received most of their training or where they received their bachelor degrees. The 516 first-year students represent 206 colleges in 40 states and in Mexico and Canada.

TABLE V—WHERE OSTEOPATHIC FIRST-YEAR STUDENTS RECEIVED PREPROFESSIONAL TRAINING, FALL 1958

STATE AND COLLEGES	CCO	COMS	COPS	KC	KCOS	PCO	TOTAL
ALABAMA							
Alabama Polytechnic Institute				1			1
Howard College					1		1
Total				1	1		2
ALASKA							0
ARIZONA							
University of Arizona			1				1
Total			1				1
ARKANSAS							0
CALIFORNIA							
East Los Angeles Junior College			1				1
Fresno State College			5				5
LaSierra College			2	2			4
Long Beach State College			2				2
Los Angeles City College			1				1
Los Angeles State College			7				7
Loyola University			1				1
Occidental College			1				1
Pepperdine College			4				4
San Diego State College			5				5
San Jose State College			1				1
University of California, Berkeley			1				1
University of California, Los Angeles			26				26
University of California, Riverside			2				2
University of Redlands			1				1
University of Southern California			13				13
Whittier College			1				1
Total			74	2			76
COLORADO							
University of Colorado		1	1				2
University of Denver		1			1		2
Total		2	1		1		4
CONNECTICUT							
University of Connecticut						1	1
Wesleyan University					1		1
Total					1	1	2
DELAWARE							
University of Delaware					1		1
Total					1		1
DISTRICT OF COLUMBIA							
Washington Missionary College					1		1
Total					1		1
FLORIDA							
Florida State University					1		1
University of Miami				1		1	2
Total				1	1	1	3
GEORGIA							
Emory University			1				1
Total			1				1
HAWAII							0
IDAHO							
University of Idaho				1	1		2
Total				1	1		2
ILLINOIS							
Chicago Teachers College	1						1
Illinois Institute of Technology	1						1
Illinois Wesleyan University		1			1		2
Lake Forest College				1			1
Loyola University		2					2
Millikin University		1					1
Mundelein College			1				1
North Central College		2					2
Northwestern University		1					1
Quincy College					1		1
Roosevelt University				1			1
Southern Illinois University					2		2
University of Illinois		1					1
Wheaton College		1			1		2
Total	11	1		2	5		19
INDIANA							
Anderson College				1	1		2
Ball State Teachers College				1			1
Butler University				1			1
Indiana State Teachers College					1		1
Indiana University		1			1		2
Purdue University		1		1	1		3
St. Joseph's College		1					1
University of Notre Dame				1			1
Total	3		2	3	4		12
IOWA							
Drake University			4				4
Iowa State College					1		1
Iowa State Teachers College				1			1
State University of Iowa			2				2
Wartburg College				1			1
Westmar College			1				1
Total			7	2	1		10
KANSAS							
Friends University					1		1
Kansas State Teachers College, Pittsburg				1			1
St. Benedict's College				1			1
Sterling College					1		1
Tabor College				1			1
University of Kansas				1			1
University of Wichita				3			3
Washburn University of Topeka				1			1
Total				8	2		10
KENTUCKY							
Asbury College					1		1
University of Kentucky		1	1				2
University of Louisville			1			1	2
Total		1	2		1	1	5
LOUISIANA							
Louisiana State University					1		1
Total					1		1
MAINE							0
MARYLAND							
Johns Hopkins University					1	1	2
Mount St. Mary's College				1			1
Western Maryland College						1	1
Total				1	1	2	4
MASSACHUSETTS							
Atlantic Union College				2			2
Boston University				1			1
Clark University					1		1

STATE AND COLLEGES		CCO	COMS	COPS	KC	KCOS	PCO	TOTAL
Springfield College							1	1
Tufts University							2	2
Williams College			1					1
	Total		1		3	1	3	8
MICHIGAN								
Albion College						1		1
Aquinas College		1						1
Calvin College		2	1					3
Central Michigan College		2				3		5
Detroit Institute of Technology		2		1			1	4
Eastern Michigan College		2			1	1		4
Ferris Institute		2						2
Great Lakes College			2			2		4
Henry Ford Community College						1		1
Hillsdale College		1	4		1			6
Hope College		1						1
Kalamazoo College					1			1
Michigan State University		2	2		1	2	1	8
University of Detroit		2	10		2			14
University of Michigan		1	2	1			1	5
Wayne State University		18	6		8	4	1	37
Western Michigan College						1		1
	Total	36	27	2	14	15	4	98
MINNESOTA								
St. Olaf College				1				1
University of Minnesota			1					1
	Total		1	1				2
MISSISSIPPI								
Rust College		1						1
	Total	1						1
MISSOURI								
Central Missouri State College					1			1
Drury College					1			1
Northeast Missouri State Teachers College		1			2	11		14
Park College					1			1
St. Louis College of Pharmacy					1			1
Southwest Missouri State College					1			1
University of Kansas City					5			5
University of Missouri					2	2		4
Washington University					1	2		3
William Jewel College					1			1
	Total	1			16	15		32
MONTANA								0
NEBRASKA								
Municipal University of Omaha			1					1
Nebraska State Teachers College, Chadron						1		1
	Total		1			1		2
NEVADA								0
NEW HAMPSHIRE								0
NEW JERSEY								
Rutgers University			1				2	3
St. Peter's College		1						1
Seton Hall University					1			1
	Total	1	1		1		2	5
NEW MEXICO								
University of New Mexico					1			1
	Total				1			1
NEW YORK								
Adelphi College			1				1	2
Brooklyn College			2				2	4
Canisius College						1		1
City College of New York					1	1	1	3
Columbia University					2		1	3
LeMoyne College							1	1
Long Island University		2	1		1	5	3	12
New York University				1	1			2
Niagara University						1		1
Queens College			1					1
St. Francis College			1					1
St. John's University		1	2			2	3	8
Syracuse University				1			1	2
University of Buffalo						4	1	5
	Total	3	8	2	5	14	14	46
NORTH CAROLINA								
East Carolina College						1		1
	Total					1		1
NORTH DAKOTA								
North Dakota Agricultural College						1		1
	Total					1		1
OHIO								
Bowling Green University						1		1
Central State College		1						1
John Carroll University			1					1
Kent State University		1						1
Marietta College				1		2		3
Miami University		1				1		2
Ohio Northern University			1		1	1		3
Ohio State University		1				3		4
Ohio University					1	2		3
Ohio Wesleyan University						1		1
University of Cincinnati							1	1
University of Dayton			1			1		2
University of Toledo						1		1
Western Reserve University					1			1
Wilmington College						1		1
Youngstown University			7					7
	Total	4	11		3	14	1	33

STATE AND COLLEGES		CCO	COMS	COPS	KC	FCOS	PCO	TOTAL
OKLAHOMA								
Central State College			1		3			4
Northeastern State College					3			3
Oklahoma State University					2			2
University of Oklahoma					3	1		4
	Total		1		11	1		13
OREGON								
Portland State College					1			1
University of Oregon				1				1
Willamette University				1				1
	Total			2	1			3
PENNSYLVANIA								
Duquesne University							1	1
Franklin and Marshall College						2	3	5
Gettysburg College							2	2
Grove City College						1		1
Haverford College						1		1
LaSalle College					2		8	10
Lebanon Valley College					1			1
Lycoming College			1					1
Pennsylvania Military College							1	1
Pennsylvania State University							4	4
Philadelphia College of Pharmacy and Science			2				8	10
St. Joseph's College					1	1	2	4
St. Vincent College							1	1
Temple University		1	4		1	1	9	16
University of Pennsylvania							4	4
University of Pittsburgh			1		1		2	4
Ursinus College							1	1
Villanova University					1		1	2
Washington and Jefferson College			1					1
	Total	1	9		7	6	47	70
RHODE ISLAND								
Brown University							1	1
University of Rhode Island							1	1
	Total						2	2
SOUTH CAROLINA								0
SOUTH DAKOTA								
University of South Dakota					1			1
	Total				1			1
TENNESSEE								
Milligan College					1			1
Southern Missionary College					3			3
University of Chattanooga		1						1
	Total	1			4			5
TEXAS								
Baylor University							1	1
East Texas State Teachers College				1		2		3
Lamar State College of Technology						1		1
Lee College					1			1
Midwestern University						1		1
North Texas State Teachers College						1		1
Prairie View A. and M. College				1				1
Southern Methodist University					1	1		2
Southwest Texas State College			1					1
Texas Christian University					2	1		3
Texas Technological College					1			1
Texas Wesleyan College					1	1		2
Texas Western College					1	1		2
University of Houston					3			3
University of Texas					2	1		3
West Texas State College					1			1
	Total		1	2	13	10	1	27
UTAH								
Brigham Young University				1				1
University of Utah						1		1
	Total			1		1		2
VERMONT								
Norwich University		1						1
University of Vermont						1		1
	Total	1				1		2
VIRGINIA								0
WASHINGTON								
University of Washington			1					1
Walla Walla College					1			1
	Total		1		1			2
WEST VIRGINIA								
Marshall College			1					1
West Virginia University				1				1
	Total		1	1				2
WISCONSIN								
Marquette University						1		1
	Total					1		1
WYOMING								0
CANADA								
Assumption College						1		1
	Total					1		1
MEXICO								
Mexico City College					1			1
	Total				1			1
GRAND TOTALS		64	75	90	103	105	79	516

States leading in number of first-year students

Table VI lists those states which lead in the number of first-year students in osteopathic colleges in 1958, and the number of colleges from which they came. This does not necessarily indicate that these students reside in the states where they received their preprofessional training. Table XI represents the actual geographic distribution of all osteopathic students in 1958.

Table VII shows the states leading in the number of first-year students in osteopathic colleges in the fall of 1957.

For many years Michigan has been among the top three states in the number of students electing to study osteopathic medicine. This year 98 students from Michigan colleges entered osteopathic colleges. This represents the largest number of students from any particular state since the end of World War II and represents a 24 per cent increase over the number of students from that state in 1957.

The preprofessional training of 68 per cent of of the six entering classes was furnished by colleges in six states. In these states are located more than 50 per cent of the entire osteopathic profession. Five of these states, namely California, Michigan, Pennsylvania, Missouri, and Ohio, have a little over 66 per cent of the total number of osteopathic beds, and in these states are located the majority of osteopathic hospitals approved for intern and residency training.

All of these states are carrying on active vocational guidance or student recruiting programs. Such programs exist in other states. It is encouraging to point out that the program in Texas resulted in a 93 per cent increase in the number of students entering the 1958 class over the number entering the 1957 class.

TABLE VI—STATES LEADING IN NUMBER OF FIRST-YEAR STUDENTS, 1958

State	Number of Colleges	Number of First-Year Students
Michigan	17	98
California	17	76
Pennsylvania	19	70
New York	14	46
Missouri	10	34
Ohio	16	33

TABLE VII—STATES LEADING IN NUMBER OF FIRST-YEAR STUDENTS, 1957

State	Number of Colleges	Number of First-Year Students
Pennsylvania	23	94
California	18	82
Michigan	17	79
Ohio	18	56
New York	17	49
Missouri	14	33

Table VIII lists the number of preprofessional colleges and states represented in the first-year class of the six osteopathic colleges. It will be noticed that the Kansas City College of Osteopathy and Surgery and the Kirksville College of Osteopathy and Surgery are represented by students from more states and more preprofessional colleges than any of the other osteopathic colleges. The Philadelphia College of Osteopathy showed an increase of matriculants from states other than Pennsylvania. Thirty per cent of the entering class received their preprofessional training in other states.

TABLE VIII—REPRESENTATION OF PREPROFESSIONAL COLLEGES AND STATES IN FIRST-YEAR CLASSES, 1958

College	First-Year Enrollment	Number of Colleges Represented	Number of States Represented
CCO	64	36	12
COMS	75	39	16
COPS	90	33	16
KC	103	70*	24‡
KCOS	105	71†	29§
PCO	79	39	12

*Including Mexico City College
†Including Assumption College, Canada
‡Including Mexico
§Including Canada

Preprofessional colleges training largest number of first-year students

Table IX lists the five preprofessional colleges which trained the largest number of entering students in the fall of 1958. For comparative purposes, Table X lists the five colleges which trained the largest number of first-year students entering in the fall of 1957.

Twenty-one per cent of the entering students in the osteopathic colleges received their undergraduate training in the five colleges and universities listed in Table IX. The 37 entering students from Wayne State University represents the highest number of students entering osteopathic colleges in any 1 year from a single university or college in the history of osteopathic education.

In each of the colleges and universities listed in Table X, representatives of the osteopathic profession annually meet with undergraduate students either on the undergraduate campus or on the campus of the local osteopathic college. Educational meetings are sponsored each year by the various state or district osteopathic societies to which are invited faculty and students from colleges and universities in their areas.

TABLE IX—PREPROFESSIONAL COLLEGES TRAINING LARGEST NUMBER OF FIRST-YEAR STUDENTS, 1958

College	State	Number of First-Year Students
Wayne State University	Michigan	37
University of California, Los Angeles	California	26
Temple University	Pennsylvania	16
University of Detroit	Michigan	14
Northeast Missouri State Teachers College	Missouri	14

TABLE X—PREPROFESSIONAL COLLEGES TRAINING LARGEST NUMBER OF FIRST-YEAR STUDENTS, 1957

College	State	Number of First-Year Students
University of California, Los Angeles	California	27
Wayne State University	Michigan	26
Temple University	Pennsylvania	21
University of Detroit	Michigan	15
University of Southern California	California	14

Geographic distribution of students, 1958

Table XI shows the geographic distribution of the entire osteopathic predoctorate enrollment according to their residence and the osteopathic college which they are attending in relation to the total number of osteopathic physicians located in the various states and countries.

TABLE XI—GEOGRAPHIC DISTRIBUTION OF OSTEOPATHIC STUDENTS, 1958

State or Country	CCO	COMS	COPS	KC	KCOS	PCO	Total Students	Total D.O.'s
Alabama				2	1		3	3
Alaska					1		1	1
Arizona		2	2	1	2		7	111
Arkansas				2			2	25
California	5	5	308	14	5		337	2,297
Colorado		1	1	2	1		5	221
Connecticut	1		1		1	4	7	67
Delaware		1		1	1	2	5	29
District of Columbia				1			1	19
Florida	3	1		6	7	1	18	413
Georgia	1			3	3	1	8	80
Hawaii	1	2	2		1		6	14
Idaho				1	1		2	42
Illinois	42	2	2	4	15		65	381
Indiana	11	1		4	14		30	185
Iowa		28		1	7		36	467
Kansas				15	4		19	206
Kentucky	2	2		2	5		11	42
Louisiana					2		2	14
Maine	1				4	3	8	218
Maryland	1	1		3	1	2	8	22
Massachusetts	1	1	1	2	2	4	11	247
Michigan	98	82	7	37	46	3	273	1,412
Minnesota	2	2	1	1	3		9	85
Mississippi			1				1	6
Missouri		1		56	34		91	1,182
Montana					2		2	48
Nebraska		1		3			4	63
Nevada							0	29
New Hampshire					1		1	26
New Jersey	4	6	2	21	15	47	95	391
New Mexico	1			2	3	1	7	107
New York	28	36	6	41	46	40	197	484
North Carolina	1				1		2	34
North Dakota		1		4	1		6	14
Ohio	25	29	6	44	42	4	150	784
Oklahoma		2	1	35	6		44	371
Oregon		1	1	4	1		7	146
Pennsylvania	5	28	2	32	25	207	299	1,300
Rhode Island			1	1	1	6	9	77
South Carolina					1		1	10
South Dakota		4			2		6	47
Tennessee	3	2		5	1		11	74
Texas	1	5	3	37	21		67	637
Utah			1				1	20
Vermont				1	1		2	33
Virginia				2	1	1	4	33
Washington	1	3	2	2	2		10	176
West Virginia	1	2	1	4	6	1	15	117
Wisconsin	2	3		2	1		8	165
Wyoming					2		2	17
Canada	2		1	1	2		6	109
British Guiana				1			1	0
British West Indies				1			1	0
Cambodia		1					1	0
China	1	1		2			3	0
Greece					1		1	0
Iran		1	3	1	1		6	0
Iraq			1				1	0
Jordan	2						2	0
Korea			1		1		2	0
Peru			1				1	1
Puerto Rico		1					1	0
Other Foreign Countries							0	82
Totals	246	258	361	402	348	327	1,942	13,183

Length of preprofessional training

Tables XII and XIII show the length of preprofessional training which the entering students in osteopathic colleges had completed by the fall of 1957 and 1958.

In 1958 there was a decrease of 4 per cent of the entering students with college degrees from the number with degrees admitted in the class of 1957. By 1956 the average age of the entering students in osteopathic colleges was noticeably less than in preceding years, because of the decreasing percentage of students who were veterans. During the few years following World War II, many students either initiated their undergraduate college program or completed it following their military service. In 1950-51, the average age of entering students in osteopathic colleges was approximately 27 years. In 1957 and in 1958, the average age of osteopathic entering students was 23 years and 9 months.

TABLE XII—LENGTH OF PREPROFESSIONAL TRAINING OF OSTEOPATHIC MATRICULANTS, FALL OF 1958

College	3 years	3+ years	Degree	Advanced Degree	Total
CCO	5	17	42	0	64
COMS	8	18	49	0	75
COPS	11	15	59	5	90
KC	11	26	62	4	103
KCOS	23	24	53	6	106
PCO	0	9	68	2	79
Total	58	109	333	17	517
			66%		

TABLE XIII—LENGTH OF PREPROFESSIONAL TRAINING OF OSTEOPATHIC MATRICULANTS, FALL OF 1957

College	3 years	3+ years	Degree	Advanced Degree	Total
CCO	11	14	47	1	73
COMS	9	14	58	1	82
COPS	14	16	73	2	105
KC	16	18	65	6	105
KCOS	16	21	65	2	104
PCO	4	7	72	1	84
Total	70	90	380	13	553
			70%		

A higher percentage of first-year students today definitely had planned their preosteopathic course at the start of their first year in undergraduate college. It is possible to complete all prerequisite courses in a minimum of 3 academic years. Undoubtedly, the economic recession of 1958 influenced many undergraduate students to apply to professional colleges during their third year of undergraduate work. It is also pointed out that the number of students entering osteopathic colleges in 1958 with the minimum of 3 years of undergraduate education is smaller than in 1957.

The column designated as "3+ years" includes a number of students who have had 4 years of undergraduate training. Many of the former students did not decide on the healing arts field in general or the osteopathic field in particular until the first or second year of undergraduate training had been completed. It was necessary for these students, therefore, to complete the prerequisite subjects in the sciences in order to fulfill admission requirements.

The Bureau of Professional Education and Colleges of the American Osteopathic Association and the

American Association of Osteopathic Colleges emphasize a good background of English and general education, in addition to the prerequisite courses in the fields of chemistry, biology, and physics. The average student who is interested in the healing arts in general is apt to be one who primarily is interested in science. Many students make up their minds to become physicians during their high school courses in biology or chemistry and upon entering undergraduate college naturally pursue their primary interest, which, in most cases, is a scientific one.

It is natural for the preprofessional student contemplating entering one of the healing arts to choose science, whether chemistry or biology or a combination of both, as one of his majors. In most undergraduate colleges and universities, strong courses in English, foreign language, and the humanities are required for graduation.

The average entering student in osteopathic colleges in 1957 had completed 112 semester hours, including 24 semester hours of chemistry, 24 semester hours of biologic science, 8 semester hours of physics, and 12 semester hours of English. The average student, therefore, had spent exactly one half of his time in the field of science and one half in English and the humanities during his preprofessional college training.

For the past 3 years correlation studies have been made of the osteopathic college first-year students upon the completion of their first year. Grades in the various basic science courses presented the first year were compared with grades made in the various science courses in preprofessional colleges. In general, it has been found from these studies that there is very little correlation between the quality of work done during the first year and the amount of preprofessional courses in the science area. For example, upon comparing grades made in physiologic chemistry during the first year and the amount of chemistry completed prior to entrance, it was found that the correlation coefficient was 0.24. The number of chemistry courses, therefore, that a student completes in preprofessional college does not have much bearing on the student's success in physiologic chemistry.

There is a definite correlation, however, between the quality of work done in physiologic chemistry and the quality of work which had been completed in undergraduate chemistry courses. There is very little indication that the amount of work done in undergraduate biologic sciences has any bearing on the quality of work done in anatomy and physiology.

The highest correlation coefficient was found to be in the general over-all scholastic average of preprofessional college work and the over-all scholastic average at the end of the first year. This coefficient, based on the last three entering classes, is 0.69. It also is pointed out that preparation in English apparently predicts just as well as the over-all scholastic average the quality of the first year of professional study.

Combined degrees

Many students entering osteopathic colleges are interested in securing a B.A. or B.S. degree either before matriculating in the professional school or after completing the first year in the osteopathic college. A number of colleges of arts and sciences have agreed to confer the baccalaureate degree upon their students who do satisfactory work for 3 years and then successfully complete their first year in an approved osteopathic college.

Northeast Missouri State Teachers College was one of the first group of colleges to set up a combined degree program with osteopathic colleges. Consequently, many students, other than from the State of Missouri, have entered this college with the intention of entering osteopathic education after completing their undergraduate program.

In recent years the combined degree has been granted to students who have completed their first year's work in an osteopathic college by the following colleges and universities:

Arizona State University, Tempe, Arizona
George Pepperdine College, Los Angeles, California
Roosevelt University, Chicago, Illinois
DePauw University, Greencastle, Indiana
Iowa Wesleyan College, Mount Pleasant, Iowa
St. Ambrose College, Davenport, Iowa
Springfield College, Springfield, Massachusetts
Albion College, Albion, Michigan
Alma College, Alma, Michigan
Central Michigan College, Mount Pleasant, Michigan
Hillsdale College, Hillsdale, Michigan
Michigan State University, East Lansing, Michigan
Western Michigan College, Kalamazoo, Michigan
St. John's University, Collegeville, Minnesota
Northeast Missouri State Teachers College, Kirksville, Missouri
University of Omaha, Omaha, Nebraska
Brooklyn College, Brooklyn, New York
Colgate University, Hamilton, New York
St. Lawrence University, Canton, New York
Syracuse University, Syracuse, New York
University of Buffalo, Buffalo, New York
Denison University, Granville, Ohio
Kent State University, Kent, Ohio
University of Toledo, Toledo, Ohio
Phillips University, Enid, Oklahoma
Thiel College, Greenville, Pennsylvania
West Texas State College, Canyon, Texas
Utah State Agricultural College, Logan, Utah
Concord College, Athens, West Virginia
West Virginia Wesleyan College, Buckhannon, West Virginia
Oklahoma State University, Stillwater, Oklahoma

National osteopathic college scholarships

The Auxiliary to the American Osteopathic Association inaugurated a scholarship program in the fall of 1949. In the spring of 1958, seven osteopathic scholarships of $1,000 each were awarded. Information about the scholarships is mailed each fall to the deans of approved colleges of arts and sciences throughout the United States and Canada. The scholarships are applied to the college tuition at the rate of $500 per year for the first 2 years in the osteopathic colleges in which the applicants matriculate. Applications for the scholarships for the entering classes in 1959 will close May 1, 1959.

A scholarship applicant must have received at least tentative acceptance from an osteopathic college in order to be eligible to make application for scholarship aid. Information about the scholarship program can

be secured from the Office of Education, American Osteopathic Association, 212 East Ohio Street, Chicago 11, Illinois.

Scholarship awards will be made on the basis of quantity and quality of preprofessional work, personality factors, financial need, and motivation toward the osteopathic school of medicine.

In 1958 the seven scholarship winners were as follows:

Name	Preprofessional College Attended	Osteopathic College Entered
Richard P. Duncan	University of Wichita, Wichita, Kansas	Kansas City College of Osteopathy and Surgery
Carl R. Gillette	Miami University, Oxford, Ohio	Kirksville College of Osteopathy and Surgery
Richard A. McElwain	Pepperdine College, Los Angeles, California	College of Osteopathic Physicians and Surgeons
John W. Nelson	Drake University, Des Moines	College of Osteopathic Medicine and Surgery
Roger D. Stoike	St. Olaf College, Northfield, Minnesota	College of Osteopathic Physicians and Surgeons
Donald P. Trimper	Eastern Michigan College, Ypsilanti, Michigan	Chicago College of Osteopathy
Dwight W. Williamson	University of Idaho, Moscow, Idaho	Kansas City College of Osteopathy and Surgery

Additional scholarship aid and awards

The Auxiliary to the California Osteopathic Association for several years has been awarding one scholarship a year to an applicant to the College of Osteopathic Physicians and Surgeons in Los Angeles. Information regarding this scholarship aid may be obtained by writing to Mrs. Richard Thibault, secretary, 251 Tate Street, Hermosa Beach, California.

The Maine Osteopathic Association initiated a scholarship program in 1953 which provides $500 toward tuition during the first year for a student who has received his preprofessional training in an approved college or university in the State of Maine and who has been accepted for admission to any of the osteopathic colleges. Information regarding this scholarship may be obtained by writing to Kenneth J. Mahoney, D.O., 138 Ocean Street, South Portland, Maine.

The staff of the Garden City Hospital, Garden City, Michigan, initiated a scholarship program in 1954 which will provide annually at least $360 to be applied toward tuition. The applicant must be a resident of the State of Michigan and must show evidence of financial need. Information about these scholarships may be obtained by writing John T. Baker, D.O., treasurer, Garden City Hospital Scholarship Fund, 1810 North Telegraph Road, Dearborn, Michigan.

The Eastern Oklahoma Osteopathic Association has established a scholarship fund. The award is made on the basis of motivation, personality, and the probability of good professional material. Grade point average is also considered in choosing the recipient of the award. The applicant must reside in the State of Oklahoma. Information about this scholarship may be obtained by writing Lucien L. Nelms, D.O., secretary-treasurer, Eastern Oklahoma Osteopathic Association, Coweta, Oklahoma.

The Canadian Osteopathic Association awards two scholarships a year to young men and women in Canada who are planning to study osteopathy and to practice in any province of Canada. Information about these scholarships may be obtained by writing to Miss Joyce S. Currie, secretary, Canadian Osteopathic Association, 609 Medical Arts Building, Montreal 25, Quebec, Canada.

The G. A. Ingram Company of Detroit, Michigan, has set up two scholarships of $250 each for Michigan students in osteopathic colleges who have completed the first year of osteopathic training. The scholarships will be awarded by the Scholarship Committee of the Auxiliary to the American Osteopathic Association, in consultation with a representative of the Ingram Company. Information about these scholarships may be obtained by writing to the Scholarship Chairman, 212 East Ohio Street, Chicago 11, Illinois.

The Surgical Equipment Company of Tampa, Florida, has set up an annual award of at least $100 to a Florida resident who has completed his third year's work in an osteopathic college. Information about this award may be secured by writing to the Director of the Office of Education, American Osteopathic Association, 212 East Ohio Street, Chicago 11, Illinois.

Various loan funds are maintained and administered by the osteopathic colleges for third- and fourth-year students. The American Osteopathic Association has for many years administered a large loan fund, which is available to osteopathic students in their third and fourth years upon recommendation of their respectives college deans.

The Osteopathic Foundation also maintains a student loan fund for third- and fourth-year students in osteopathic colleges who are recommended by their faculty committees. Inquiries may be sent to the chairman of the Osteopathic Foundation Student Loan Fund Committee, 212 East Ohio Street, Chicago 11, Illinois.

Educational Standards for Osteopathic Colleges*

Approved by the Board of Trustees of the American Osteopathic Association

Admission requirements

1. A minimum of three years of college training in a college or university accredited by a regional educational association is required for admission to professional education in an osteopathic college.† An applicant for admission must have completed at least one-half of the required credit for a baccalaureate degree in an accredited college to be considered for admission to an osteopathic college. In exceptional cases,

*Revised and issued by the Bureau of Professional Education and Colleges of the American Osteopathic Association, 1958.

†Undergraduate college programs are accredited by the following five regional educational associations:

Middle States Association of Colleges and Secondary Schools
North Central Association of Colleges and Secondary Schools
Northwest Association of Secondary and Higher Schools
Southern Association of Colleges and Secondary Schools
Western College Association

The New England Association of Colleges and Secondary Schools is not an accrediting agency, but has standards for membership similar to those maintained by the above five accrediting agencies. Membership in the New England Association of Colleges and Secondary Schools is recognized by the American Osteopathic Association as approval of the colleges in that area.

All approved undergraduate colleges require high school graduation or its equivalent for admission.

a duly recognized and approved osteopathic college may request that the academic credentials of a highly qualified student, who has completed his preprofessional work in a college or university not accredited by a regional educational association, be evaluated by the Bureau of Professional Education and Colleges of the American Osteopathic Association. Approval of such credentials by the Bureau must be obtained before admission of any such exceptional student to an osteopathic college. Each such case shall be considered upon an individual basis.

All transcripts of records from other schools shall be obtained directly from such schools. Transcripts presented directly by the applicant will not be acceptable.

The official transcript of each applicant must show the satisfactory completion of the following minimum credits in basic subjects prior to admission:

English	6 semester hours (12 hours recommended)
Physics	‡6 to 8 semester hours
Biology	‡6 to 8 semester hours (12 hours recommended
Inorganic Chemistry	8 semester hours
Organic Chemistry	4 to 8 semester hours, including both the aliphatic and benzene compounds

It is desirable that the elective subjects afford a broad educational and cultural background.

2. The American Council on Education has evaluated the content and quality of the various educational programs conducted by the Armed Forces and has issued a "Guide to the Evaluation of Educational Experiences in the Armed Forces" to assist educational institutions, desiring to do so, to award proper college credits for specific courses taken in these programs.

The following statement is accepted by the American Osteopathic Association as a basis for the evaluation of equivalency of college credits:

College credits (except in science courses requiring laboratory work or except blanket credits for military services not based on courses or examinations) may be based either on (a) courses taken from the Armed Forces Institute or in service courses of the Armed Forces according to the "Guide to the Evaluation of Educational Experiences in the Armed Forces" of the American Council on Education, or (b) performance in the General Educational Development Tests of the American Council on Education.

3. In addition to the academic requirements listed in paragraphs 1 and 2, applicants to osteopathic colleges shall be selected on the basis of academic performance, osteopathic motivation and personal qualifications.

4. With the consent of the Bureau of Professional Education and Colleges, upon due individual consideration, not more than two years of time credit may be accorded to students presenting credentials from other than osteopathic professional schools. Neither time credit nor subject credit shall be accorded, unless such credit can unmistakably be interpreted as the equivalent of courses in the same subjects over the same period of time in the osteopathic college which grants the credit.

5. Credit for work done in other approved medical schools may be accorded only after the most careful individual evaluation.

‡Whichever is a complete year's course in the college involved.

Educational standards
(Minimum requirements)

1. *Organization.*—

An osteopathic college shall be incorporated as a non-profit institution.

The Board of Trustees shall be composed of persons, including a strong representation of laymen, interested in the advancement of the osteopathic school of practice. No member or officer of the Board shall receive financial remuneration from the operation of the college or its associated teaching hospitals. The members of the Board shall serve sufficiently long terms so that continuity of the institution's program will be carried out without precipitate change in policy. Since the Board of Trustees is the responsible corporate body and is required to establish policy in the direction and guidance of the administration and the educational activities of the institution, it follows that a member of the administrative staff or faculty should not be a member or officer of the Board of Trustees.

The institution must be organized to conform to accepted standards of professional education as to business management, faculty and professional staff.

Since the proper teaching of osteopathic medicine cannot be accomplished with the revenue derived through income from students, an acceptable college must show adequate additional income.

The primary objective of the college shall be to provide an educational program which will prepare osteopathic physicians and surgeons for general practice in osteopathic medicine. Such an additional program will afford the proper foundation for any course of continuing training as may prove desirable.

Administration and faculty shall consist of persons who are (a) devoted to the primary objective of the college, (b) possessed of such qualifications and purposes as will assure the perpetuation of the osteopathic school of medicine, and (c) inspired toward the further development of distinctive osteopathic contribution to the broad field of medicine.

The evaluating agency for osteopathic teaching institutions is the American Osteopathic Association, acting through its Board of Trustees on recommendation of the Bureau of Professional Education and Colleges.

The college shall afford to proper representatives of the American Osteopathic Association unhampered opportunities to study and inspect the facilities, students, faculty and administration, including a study of all records, credentials, grading, promotion and graduation procedures.

The college shall fill out, annually, student personnel information blanks for the Association's records and supply lists of students by classes in order that accurate information may be recorded in the files of the Association. The college shall complete annual college survey blanks as requested by the Bureau of Professional Education and Colleges of the American Osteopathic Association.

The college shall seek membership in the American Association of Osteopathic Colleges and enter into agreement with the members of that Association and the Bureau of Professional Education and Colleges of the American Osteopathic Association as to credits to be granted and regulations to be followed in the transference of students from one osteopathic college to another.

2. *Administration.*—

The college shall be under the direction and supervision of a president, dean or other executive officer,

selected because of his particular training and experience and capable of interpreting the prevailing standards for osteopathic education. This individual shall have authority to carry these standards into effect. Appointment and promotion of the administrative staff shall be made by the Board of Trustees, on the recommendation of the executive officer. Appointment and promotion of the faculty shall be made by the Board of Trustees on the recommendation of the chief executive officer, who shall transmit to the Board of Trustees the recommendations of the dean developed through consultation with the department chairmen.

The number of students for which the institution can adequately provide an educational program shall be taken into consideration in determining the necessary faculty and clinical, laboratory and hospital facilities.

A system of faculty-student advisers shall be established, and opportunity for frequent personal contact between members of the faculty and of the student body shall be provided.

Each college shall publish a catalog not less frequently than every other year. Catalogs shall list the courses available, the faculty members and the time schedule. Catalogs shall set forth the entrance requirements, tuition fees, and such general information as is necessary to the members of the student body. The list of students enrolled each year shall be included.

A committee of the faculty for the evaluation of entrance credentials shall assist the executive officer in evaluating the qualifications of applicants.

Faculty meetings shall be held at stated intervals at which times reports of the various faculty committees shall be presented to the faculty.

Records of preliminary education and certification thereof shall be kept on file permanently for examination by proper officials. The system of records must show in detail throughout the college course, the attendance record, grade and any other notations useful in evaluating the total work of each student.

Students shall be required to be in actual attendance within the first week of each term for which they receive credit. Each student shall be required to be in actual attendance in the institution during the four years required for his undergraduate work unless time credit has been accorded for work actually pursued in attendance at another osteopathic college approved by the American Osteopathic Association or in other similarly approved colleges. Students shall complete at least the last year of their undergraduate course in residence in the college which confers the degree.

No credit shall be accorded in courses where the record indicates attendance of less than 80 per cent.

Graduates must be at least 21 years of age at the time of graduation.

3. *Faculty.*—

A competent teaching faculty shall be selected and it shall be organized into departments. In addition to other qualifications, consideration should be given to thorough training, a successful teaching experience, clinical experience, and demonstrated ability or desire to engage in research. In the selection of faculty members, the executive officer should consult with the department heads and transmit to the Board of Trustees recommendations developed through such conferences.

Faculty members should have a reasonable security and tenure.

The faculty roster should list at least ten full-time teachers of professional rank. In the laboratory courses there should be a minimum ratio of one assistant to each 25 students.

A qualified librarian should be employed to supervise and develop the library.

4. *Plant.*—

A college must have for its exclusive use adequate buildings, which provide lecture rooms, laboratories, library and administrative offices.

The medical library should include the modern texts, reference books, and the leading periodicals needed in the teaching program.

5. *Teaching Aids.*—

Each institution should have a museum of pathological and anatomical specimens, and such auxiliary adjuncts, including visual aids, as are desirable for effective teaching.

A sufficient number of cadavers should be provided so that every two students may dissect at least a lateral half.

A supply of animals should be provided for use in the college laboratories. Adequate provision shall be made for their care and housing.

6. *Clinical Facilities.*—

Each college shall operate a general clinic. Histories and records in the clinic shall be maintained and utilized as teaching material. Clinics should be organized so that patients may be cared for in the clinic or in their homes.

Osteopathic colleges must have access, for teaching purposes, to a general hospital or hospitals affiliated with, or under control of the college.

The college should appoint those who direct the clinical teaching, or supervise the staff concerned with teaching in such hospitals in order that proper supervision can be exercised over students in their contact with patients.

Students should have opportunity of observing and studying a wide variety of diseases ranging from the common case problems to the complex and rare conditions. The material available should be used to its greatest teaching value. The student class should be so organized as to afford the closest possible approach to individual instruction.

Clinical clerkships should be provided. Students should observe, keep records and administer treatment under the supervision of the teaching staff.

An obstetrical clinic must be conducted so that each student shall be properly trained in the care and management of obstetrical cases. All areas of clinical participation shall be under the supervision of the responsible teaching class. A carefully prepared report and summary shall be compiled by the student for each case under observation.

Students shall attend post-mortem examinations under the direction of the Department of Pathology. Each student shall prepare protocols on at least six post-mortem examinations.

Training criteria for the Clinical Clerkship in the Hospital:

Clinical clerkship programs in hospitals which are not on the campus of an approved college, and not under the immediate authority of the college administration, shall be approved only in hospitals having the approval of the American Osteopathic Association for either intern or residency training or both.

Facilities for clinical clerkship training under the immediate authority of the college which fall in categories other than outpatient clinics and approved hospitals shall be inspected and appraised for approval on an individual basis.

The program must provide educational experience in the various departments of the hospital.

There must be a definite program of instruction, including case recording and study, clinical observation, collateral reading, didactic work and a regular program of staff lectures, clinical conferences, etc.

There must be adequate daily supervision of the student, and his progress must be reported regularly to the college.

A properly qualified individual must be designated as in charge of the clerkships in the affiliated institution. This individual should be directly responsible to the dean of the college with which the hospital is affiliated.

The clinical faculty in the affiliated institution must be composed of qualified members properly organized as a teaching faculty.

The sufficiency and diversity of clinical material in the affiliated institutions should determine the number of students to be trained at any one time.

Such programs shall be evaluated by the Bureau of Professional Education and Colleges in the accreditation procedure for the colleges.

7. Curriculum.—

Since the osteopathic profession and its colleges maintain their independence and distinction in the general field of medicine because of the contribution which osteopathy makes to the prevention, the diagnosis and the treatment of disease, and because the importance of maintaining the structural integrity of the body should be recognized and emphasized in all departments of practice, approved osteopathic colleges are required to give adequate and comprehensive training in the principles and practice of osteopathic diagnosis and therapeutics. This requirement includes, first, the presentation of special courses of instruction in distinctively osteopathic subjects, particularly applied anatomy and physiology, osteopathic principles, structural pathology and osteopathic manipulative technics.

In addition to the special courses named hereafter, the course content of the basic science subjects—anatomy, physiology, chemistry, pathology, bacteriology and immunology—should include the presentation and discussion of structural pathologies, their presence, their effects, their influence on anatomical relationships, the physiological and chemical reactions of the body, the progression of pathological changes, and the natural resistance of the body to the invasion of microorganisms.

During the clinical years, the part played by structural pathologies in the etiology, pathology, diagnosis, prognosis and treatment of all classifications of diseases shall be presented and fully discussed. The incorporation of structural findings in case records and the application of osteopathic manipulative treatment, whenever indicated, shall be required in the management of every teaching case in the outpatient clinic and the teaching hospital.

The curriculum in a college of osteopathy should be presented in a minimum of four standard academic years of at least one thousand (1000) hours each and should include adequate and comprehensive instruction in:

Parasitology	Anatomy
Immunology	Embryology
Radiology	Histology
Surgery	Physiology
Orthopedic Surgery	Biochemistry
Urology	Pharmacology
Otorhinolaryngology	Toxicology
Ophthalmology	Sanitation
Anesthesiology	Bacteriology
Osteopathic Principles, Practice and Technic	Comparative Therapeutics
Internal Medicine	Materia Medica—associated subjects
Neurology	Pathology
Psychiatry	Public Health—Preventive Medicine
Pediatrics	
Dermatology and Syphilology	Hygiene
Therapeutics	Obstetrics and Gynecology
Tropical Medicine	Osteopathic Medicine

8. Degree.—

Inasmuch as the degree of Doctor of Osteopathy is a time-honored designation, conferred by colleges of osteopathy to distinguish the graduates of the osteopathic school of practice; since it is a term legalized by charters of all osteopathic colleges and a legal term written into many laws governing the practice of osteopathic physicians and surgeons; since it is the term used in literature, reference books, and governmental regulations (national, state, local, etc.) to designate graduates of this school; since it serves to distinguish such graduates from graduates of other schools of the practice of the healing arts; since it has become a well-confirmed precedent in designation of osteopathic physicians; since much labor has been expended to identify the degree with its exponents; therefore, the only degree to be used by an approved osteopathic college qualifying candidates for examination for licensure to practice the healing arts shall be the degree, Doctor of Osteopathy.

It is not intended thereby to prevent approved osteopathic colleges from granting honorary degrees nor degrees in courses of such nature as shall be warranted by courses undertaken in whole or in part in the approved college.

Student selection in osteopathic colleges

The task of selecting men and women for training in any technical or scientific field of endeavor is one of tremendous responsibility. So much, in terms of human welfare and economic progress, is dependent upon whether or not these choices are made intelligently and carefully. But the selection of those to be trained in the art and science of alleviating human suffering and treating disease demands infinitely wiser and more searching appraisal. The vital character of the service they will be expected to render is not the only reason this is true. The various and varied qualities and qualifications which are desirable and necessary in the true physician make it imperative that each be taken separately and given its proper consideration and weight. This does not mean, however, that the admissions committees select their students on a cold, mathematical basis.

Osteopathic college admissions committees have one objective in mind—that is, to accept only those who, in their judgment, give promise of developing into successful osteopathic physicians, given the proper scientific and professional training through the media of college instruction, hospital internship, and the experience gained in actual practice. It is virtually impossible

to ascribe greater importance to one over another of the qualities and qualifications which offer promise of such success. All are needed and all must be clearly defined in the thinking of admissions committees.

Necessary qualities and qualifications

It is deemed essential that students who are admitted to osteopathic colleges have the following:

1. *Better than average physical health,* so that it will be possible and not too difficult to endure the intensity of their professional training and the sudden and incessant and often rigorous demands on their time and energy in practice.

2. *Financial resources* to guarantee completion of training through internship, allowing for the fact that there are scholarships awarded by the Auxiliary to the American Osteopathic Association and that loans are available in the third and fourth years from the Student Loan Fund of the American Osteopathic Association. (Although every attempt is made not to penalize an otherwise eligible candidate because of finances, lack of sufficient funds is deemed inimical to the necessary concentration on study.)

3. *An intellectual capacity* which will enable them to understand and apply, as well as accumulate, knowledge and skills.

4. *A high degree of emotional stability* and ability to control their own thoughts and actions so that they can exert a steadying influence on the thinking and behavior of the patients under their care.

5. *Inherent honesty,* synonyms for which are integrity, reliability, and dependability, which will instill implicit confidence and command ready compliance in all matters pertaining to their patients' health and welfare.

6. *Thoroughness,* which indicates that in practice they could be expected to utilize instinctively every accepted method of diagnosis and employ every indicated therapy or refer the patient to a specialist skilled in the particular treatment required.

7. *Understanding osteopathic medicine.* Medicine is not a one-concept discipline, be it drug, mental, or manipulative. When applied to the diagnosis and treatment of disease or diseases, medicine in breadth involves three universal concepts or phases, all of which go back to the ancient Greeks. And all are fundamental. These phases are: the administration of drugs in diagnosis and treatment (pharmacology), the employment of mental healing (psychiatry and psychology), and the use of physical medicine (which includes manipulation, operative surgery, and physical agents).

The student should know that there is a difference between medical education under osteopathic auspices and medical education generally. Osteopathy began as a fresh approach to American medical practice—a reorientation toward the physical medicine phase that recognized, and continues to recognize, that the musculoskeletal system is as vital to the body as other systems, interacting reciprocally with them, influencing their functioning, and being influenced by it. Osteopathic medicine emphasizes that maladjustments, aberrations, and abnormalities of body structure demand skilled care if they are not to affect in a noxious manner man's whole body. After 60 years of successful experience in the diagnosis and treatment of disease, the profession maintains that there are insights in osteopathic medicine and strengths in organized osteopathy to activate those insights that generally are not to be found elsewhere.

Further, the student should be able to accept the fact that osteopathy is not and never has been a single-concept profession. By its emphasis on the physical medicine concept of diagnosis and treatment, osteopathy restores medical conceptual thinking to its full round—drug medicine, mental medicine, physical medicine, the three concepts that cut across the whole of medicine.

8. *A mechanical sense*—especially should the student possess a mechanical sense sufficient to enable him to develop the particular skills and technics demanded by the physical medicine concept, whether manipulative or surgical in character.

9. *Spiritual altruism,* or an unselfish devotion to and interest in the physical and mental welfare of people, regardless of demands on his time and energy and without primary thought of compensation.

10. And finally that intangible something called *personality,* probably a combination of certain of the above attributes, but which also includes initiative tempered by humility, the capacity for considerate leadership, a sense of humor coupled with a profound recognition of the value of a human life, and such things as intelligent generosity, dignified helpfulness, and a spontaneous friendliness and interest in people. We seek compelling personalities for we are a relatively young profession and we are anxious that our graduates become leaders in their communities, not only as good doctors, but also as good citizens.

Sources of evidence

The sources of evidence to support or negate the eligibility of a candidate are not unlike those employed by committees on admissions generally. The formal application supplies much factual information of value. The age, marital status, and statement of financial condition are found here. The matter of age alone may raise important considerations. A certain age may mean immaturity of mind, another may present the likelihood of acquired inflexibility of thinking beyond the more mentally acquisitive years, or there may be involved staleness or loss of earlier knowledge through too great a lapse of time between the completion of the preprofessional preparation and the resumption of study in the more difficult and intensive professional courses.

Experience has shown that a wife may truly be a student's helpmate or a definite handicap. For that reason, it is often well to learn something of the wife's character and potential. If the applicant is single, and without the anchor and impetus which a wife could afford, care must be exercised in determining if he is steady and solid and can be counted on to carry through to his goal. The significance of adequate means to assure uninterrupted study has already been mentioned. The facts on this point are usually determined from the applicant's own statement, from the parents' ability and willingness to help, availability of benefits from the G.I. bill, and savings.

Additional data shown on the application form are the source of interest in osteopathic medicine, the previous employment if other than a student, the nature of any previous application to another professional college, and the statement of motivation. The desire to become an osteopathic physician and surgeon often comes through the competence of the osteopathic

family physician. Many have received ample proof of the efficacy of osteopathic care because of their own experience with it. Others first become interested in osteopathic medicine through friends who are students in osteopathic colleges. The attention of an increasing number is directed to a career in this field through the counselor or counseling committee in the preprofessional college. The Director of the Office of Education of the American Osteopathic Association and administrative officers of osteopathic colleges annually make visits to liberal arts colleges throughout the Nation, from which osteopathic students come. During these visits members of premedical counseling committees are met. The high standards of osteopathic education and the caliber of student in which the osteopathic colleges are interested are discussed. Premedical counselors, in turn, do not hesitate to suggest a career in osteopathic medicine.

Perhaps the most illuminating portion of the application form is the statement of motivation. This is requested in the applicant's own handwriting which, in itself, may be something of an index of his character and characteristics. Aside from showing what is understood and believed concerning the profession of his choice, the sincerity of presentation, the kind of language used, the construction of sentences, and even spelling and punctuation indicate, to some degree, conviction or mild interest, refinement or crudity, attention to detail or carelessness, and many other manifestations of the intrinsic character of the applicant as an individual. The mere recitation of what seems to be expected, in contrast to an earnest expression of a genuine ambition, is not too difficult to detect.

Data on intellectual capacity and all that this term implies can best be gleaned from the official preprofessional record. This includes not only the transcript of credits but also the consensus of conclusions arrived at by recommendations of the liberal arts college or by reports from individual instructors in the departments of biology and chemistry and from the preprofessional counselor. The osteopathic college admissions committee finds these sources to be even more trustworthy than a letter of endorsement from the osteopathic physician who first stimulated interest in osteopathy as a career. There is always the possibility of a more or less justified bias in favor of the applicant, which is understandable but which, in many instances, should be discounted to some extent. The exceptions to this latter observation are the osteopathic physicians scattered throughout the country who are especially trained in interviewing and screening technics and who are designated as official interviewers for the six osteopathic colleges, under the sponsorship of the American Osteopathic Association or the state osteopathic societies. The contribution of these men has been invaluable in the colleges' experience and great credit is due them. All interviewers are furnished with an analytical interview sheet containing searching questions regarding all aspects of personality, character, aptitude, and ability. It is somewhat amazing how similar are the findings of individual questioners when a carefully worked-out pattern of questioning is prepared for them, although scored independently.

The final decision is in the hands of college admissions committees. The interview sheet utilized by committee members is the same as that furnished the men in the field and counselors in liberal arts colleges. The committees, however, probably go a little further and dig somewhat deeper. It is the practice in most osteopathic colleges to have the applicant interviewed by members of the admissions committee individually, rather than by the committee as a group. Only after a careful analysis has been recorded by each member separately are their findings brought together for comparison and crystallization into one decision of either acceptance or rejection. The value of objective interest and aptitude tests is recognized and is utilized, but it is felt that direct analyses obtained through many interviews may be of greater value. The College of Osteopathic Physicians and Surgeons and the Philadelphia College of Osteopathy require the Medical College Admission Test. Approximately 85 per cent of the entering students each year ask for their test scores to be sent to other osteopathic colleges. Some osteopathic colleges still use the Strong Interest Inventory as a part of the admissions program. Other tests in use are the Minnesota Multiphasic Personality Test and the Ohio State Psychological Test, Part 3, which emphasizes reading comprehension.

All of the ten factors listed above as essential qualities and qualifications inherent in a successful osteopathic physician are carefully considered by committees as a basis for their conclusions. Each of the ten is explored separately.

As a summation question, each member of the committee asks himself whether, after the necessary training and experience, a candidate can be expected to develop into the sort of physician in whose hands he would be willing to entrust, with implicit confidence, his own physical welfare and, indeed, his life. This would seem to be the supreme test, and such a conclusion can only be based on a meticulous consideration of all of these ten essential requirements for true success.

Dates of 1959 first-year student matriculation

Chicago College of Osteopathy	September 28	Kansas City College of Osteopathy and Surgery	September 14
College of Osteopathic Medicine and Surgery	September 1-2	Kirksville College of Osteopathy and Surgery	September 6-7
College of Osteopathic Physicians and Surgeons	September 14	Philadelphia College of Osteopathy	September 8

Registry of Hospitals

HOSPITALS APPROVED FOR TRAINING OF INTERNS

(For the Period from July 1, 1958, to June 30, 1959)

The length of American Osteopathic Association approved intern training is 12 months.

Allentown Osteopathic Hospital, Allentown, Pennsylvania
Art Centre Hospital, Detroit, Michigan
Bangor Osteopathic Hospital, Bangor, Maine
Bashline Osteopathic Hospital & Clinic, Grove City, Pennsylvania
Bay Osteopathic Hospital, Bay City, Michigan
Bay View Hospital, Bay Village, Ohio
Biscayne Osteopathic Hospital, Miami, Florida
Brentwood Hospital, Warrensville Heights, Ohio
Burbank Hospital, Burbank, California
Cafaro Memorial Hospital, Youngstown, Ohio
Carson City Hospital, Carson City, Michigan
Charles E. Still Osteopathic Hospital, Jefferson City, Missouri
Chicago Osteopathic Hospital, Chicago, Illinois
Civic Center Hospital, Oakland, California
Clare General Hospital, Clare, Michigan
Community Hospital, Houston, Texas
Community Medical Center, North Sacramento, California
Community Memorial Hospital, Moberly, Missouri
Corpus Christi Osteopathic Hospital, Corpus Christi, Texas
Dallas Osteopathic Hospital, Dallas, Texas
Davenport Osteopathic Hospital, Davenport, Iowa
Delaware Valley Hospital, Bristol, Pennsylvania
Des Moines General Hospital, Des Moines, Iowa
Detroit Osteopathic Hospital, Detroit, Michigan
Doctors Hospital, Columbus, Ohio
Doctors Hospital, Los Angeles, California
Doctor's Osteopathic Hospital, Erie, Pennsylvania
Erie Osteopathic Hospital, Erie, Pennsylvania
Flint General Hospital, Flint, Michigan
Flint Osteopathic Hospital, Flint, Michigan
Forest Hill Hospital, Cleveland, Ohio
Fort Worth Osteopathic Hospital, Fort Worth, Texas
Garden City-Ridgewood Hospitals
  Garden City Hospital, Garden City, Michigan
  Ridgewood Hospital, Ypsilanti, Michigan
Gleason Hospital, Larned, Kansas
*Glendale Community Hospital, Glendale, California
Grand Rapids Osteopathic Hospital, Grand Rapids, Michigan
  Burton Heights Branch, Grand Rapids, Michigan
Grandview Hospital, Dayton, Ohio
Green Cross General Hospital, Cuyahoga Falls, Ohio
Hillside Hospital, San Diego, California
Hospitals of the Kansas City College of Osteopathy and Surgery
  Osteopathic Hospital, Kansas City, Missouri
  Conley Maternity Hospital, Kansas City, Missouri
Hospitals of Philadelphia College of Osteopathy
  The Hospital of Philadelphia College of Osteopathy, Philadelphia, Pennsylvania
  North Center Hospital of Philadelphia College of Osteopathy, Philadelphia, Pennsylvania
Houston Osteopathic Hospital, Houston, Texas
Kirksville Osteopathic Hospital, Kirksville, Missouri
Lakeside Hospital, Kansas City, Missouri
Lakeview Hospital, Milwaukee, Wisconsin
Lancaster Osteopathic Hospital, Lancaster, Pennsylvania
Laughlin Hospital & Clinic, Kirksville, Missouri
Long Beach Osteopathic Hospital-Magnolia Hospital
  Long Beach Osteopathic Hospital, Long Beach, California
  Magnolia Hospital, Long Beach, California
Los Angeles County Osteopathic Hospital, Los Angeles, California
Madison Street Hospital, Seattle, Washington
Mahoning Valley Green Cross Hospital, Warren, Ohio
Massachusetts Osteopathic Hospital, Boston, Massachusetts
Maywood Hospital, Maywood, California
McLaughlin Osteopathic Hospital, Lansing, Michigan
Mesa Memorial Hospital, Grand Junction, Colorado
*Metropolitan Hospital, Philadelphia, Pennsylvania
Mineral Area Osteopathic Hospital, Farmington, Missouri
Monte Sano Hospital of Physicians & Surgeons, Los Angeles, California
Mount Clemens General Hospital, Mount Clemens, Michigan
Muskegon Osteopathic Hospital, Muskegon, Michigan
Normandy Osteopathic Hospital, St. Louis, Missouri
Northwest Hospital, Miami, Florida
Oklahoma Osteopathic Hospital, Tulsa, Oklahoma
Ontario Community Hospital, Ontario, California
Orrville Community Osteopathic Hospital, Orrville, Ohio
Osteopathic General Hospital of Rhode Island, Edgwood, Cranston, Rhode Island
Osteopathic Hospital of Harrisburg, Harrisburg, Pennsylvania
Osteopathic Hospital of Maine, Portland, Maine
Parkview Hospital, Toledo, Ohio
Phoenix Osteopathic Hospitals
  Phoenix Osteopathic Hospital, Phoenix, Arizona
  McDowell Branch, Phoenix, Arizona
Pontiac Osteopathic Hospital, Pontiac, Michigan
Portland Osteopathic Hospital, Portland, Oregon
†Rio Hondo Memorial Hospital, Rivera, California
Riverside Hospital, Wilmington, Delaware
Riverside Osteopathic Hospital, Trenton, Michigan
Riverview Osteoathic Hospital, Norristown, Pennsylvania
Rocky Mountain Osteopathic Hospital, Denver, Colorado
Saginaw Osteopathic Hospital, Saginaw, Michigan
San Gabriel Valley Hospital, San Gabriel, California
Sandusky Memorial Hospital, Sandusky, Ohio
Selby General Hospital, Marietta, Ohio
South Bend Osteopathic Hospital, South Bend, Indiana
Standring Memorial Osteopathic Hospital, Seattle, Washington
Stevens Park Osteopathic Hospital, Dallas, Texas
Still Osteopathic Hospital, Des Moines, Iowa
Traverse City Osteopathic Hospital, Traverse City, Michigan
Tucson General Hospital, Tucson, Arizona
Victory Hospital, North Hollywood, California
Waldo General Hospital, Seattle, Washington
Waterville Osteopathic Hospital, Waterville, Maine
West Side Osteopathic Hospital of York, York, Pennsylvania
Wetzel Osteopathic Hospital, Clinton, Missouri
Wilden Osteopathic Hospital, Des Moines, Iowa
Zieger Osteopathic Hospital, Detroit, Michigan

*Second-year Internship
†Dual Staff

REGISTERED HOSPITALS

(For the Period from July 1, 1958, to June 30, 1959)

Altadena Community Hospital, Altadena, California
Alva Osteopathic Hospital, Alva, Oklahoma
Amarillo Osteopathic Hospital, Amarillo, Texas
Aransas Hospital, Aransas Pass, Texas
Arcade Hospital, North Sacramento, California
Aspermont Hospital & Clinic, Aspermont, Texas
Audubon Hospital, Audubon, New Jersey
Avon Center Hospital, Rochester, Michigan
Axtell Osteopathic Hospital, Princeton, Missouri
Barnes Osteopathic Hospital & Clinic, King City, Missouri
Bellevue Hospital & Clinic, Houston, Texas
Big Sandy Clinic-Hospital, Big Sandy, Texas
Blackwood-Mims Clinic and Hospital, Comanche, Texas
Cadieux General Hospital, Detroit, Michigan
Cape Osteopathic Hospital, Cape Girardeau, Missouri
Cardwell Memorial Hospital, Stella, Missouri
Chesemore Clinic & Hospital, Paris, Tennessee
Clinic Hospital, Nowata, Oklahoma
Coats-Brown Clinic & Hospital, Tyler, Texas
Colorado Hospital, Canon City, Colorado
Community Memorial Hospital, Sturgis, South Dakota
Cottage Hospital, Oildale, California
Crews Hospital & Clinic, Gonzales, Texas
Currey Clinic-Hospital, Mt. Pleasant, Texas
Delgado Green Cross Hospital, Ysleta, Texas
Denison Hospital & Clinic, Denison, Texas
Doctors' Hospital, Albuquerque, New Mexico
Doctors' Hospital, Houston, Texas
Doctors' Hospital, Jacksonville, Florida
Doctors' Hospital, Kansas City, Missouri
Doctors Hospital, St. Petersburg, Florida
Donley Osteopathic Hospital & Clinic, Kingman, Kansas
East Liverpool Osteopathic Hospital, East Liverpool, Ohio
Edgewater Hospital, Milwaukee, Wisconsin
Elliston Clinic & Hospital, Covington, Tennessee
Elm Street Hospital & Clinic, Denton, Texas
Gordon Memorial Hospital, Sioux City, Iowa
Granbury General Hospital, Granbury, Texas
Granby Community Hospital, Granby, Missouri
Groom Osteopathic Hospital, Groom, Texas
Harrison Miller Memorial Hospital, Hinton, Oklahoma
Hillcrest Osteopathic Hospital, Oklahoma City, Oklahoma
Humphreys Osteopathic Hospital, Tuscumbia, Missouri
Hustisford Hospital, Hustisford, Wisconsin
Jackson Osteopathic Hospital, Jackson, Michigan
Joplin General Hospital, Joplin, Missouri
Juniata Park Medical Center, Philadelphia, Pennsylvania
Lake Worth Osteopathic Hospital, Fort Worth, Texas
Lakeview General Hospital, Battle Creek, Michigan
Lamb Memorial Hospital, Denver, Colorado
Las Olas Hospital, Fort Lauderdale, Florida
Le Roy Hospital, New York, New York
Lincoln Park Osteopathic Hospital, Grand Junction, Colorado
Longs Peak Osteopathic Hospital, Longmont, Colorado
Lubbock Osteopathic Hospital, Lubbock, Texas
Manning General Hospital, Manning, Iowa
Marcom Hospital, Ladonia, Texas
Margaret Lyle Osteopathic Hospital, Benton Harbor, Michigan
Marshfield General Hospital, Marshfield, Wisconsin
Martin Place Hospital, Detroit, Michigan
Mason Clinic & Hospital, Mason, West Virginia
Mayer Hospital & Clinic, Lubbock, Texas
Medford Osteopathic Hospital, Medford, Oregon
Memorial Hospital of Manistee County, Onekama, Michigan
Memorial Osteopathic Hospital, Elizabeth, New Jersey
Mesa Osteopathic Hospital, Mesa, Arizona
Miles Osteopathic Hospital, Grapevine, Texas
Mt. Pleasant Hospital & Clinic, Mt. Pleasant, Texas
New Mexico Osteopathic Hospital, Albuquerque, New Mexico
New Valley Osteopathic Hospital, Yakima, Washington
North Jersey Osteopathic General Hospital, Dumont, New Jersey
Northeast Osteopathic Hospital, Kansas City, Missouri
Northwest General Osteopathic Hospital, Detroit, Michigan
Orlando Osteopathic Hospital, Orlando, Florida
Ormond Beach Hospital, Ormond Beach, Florida
Osteopathic Hospital of Wichita, Wichita, Kansas
Ottawa General Hospital, Ottawa, Illinois
Ozark Osteopathic Hospital, Springfield, Missouri
Palmer Osteopathic Hospital, Detroit, Michigan
Park View Hospital, Los Angeles, California
Plattner Clinic & Hospital, Grand Prairie, Texas
Point Clinic & Hospital, Point Pleasant, West Virginia
Pool Memorial Hospital, Lindsay, Oklahoma
Porter Clinic-Hospital, Lubbock, Texas
Redfield Clinic Hospital, Redfield, Iowa
Reid Hospital & Clinic, Bethany, Missouri
Riley Sanatorium, North Muskegon, Michigan
Riverside's Osteopathic Hospital, Riverside, California
Saco Osteopathic Hospital, Saco, Maine
San Antonio Osteopathic Hospital, San Antonio, Texas
Sandusky Hospital-Clinic, Sandusky, Michigan
Sequoia Hospital, Fresno, California
Sheridan Community Hospital, Sheridan, Michigan
Southern Oklahoma Osteopathic Hospital, Ardmore, Oklahoma
Still-Hildreth Osteopathic Sanatorium, Macon, Missouri
Stocker Hospital & Clinic, Oconomowoc, Wisconsin
Stratton Hospital & Clinic, Cuero, Texas
Talco Hospital & Clinic, Talco, Texas
Tigua General Hospital, El Paso, Texas
Trenton Osteopathic Hospital, Trenton, Tennessee
Troy Community Hospital, Troy, Pennsylvania
Wellsburg Eye & Ear Hospital, Wellsburg, West Virginia
West Broward Hospital & Clinic, Fort Lauderdale, Florida
Wetzel Osteopathic Hospital, Carrollton, Missouri
Whitaker Osteopathic Hospital, Moberly, Missouri
Wolfe-Duphorne Hospital, Athens, Texas
Woodland Hospital & Clinic, Sedalia, Missouri

Approved Resident Training Programs

(All Residencies Approved for the Period from July 1, 1958 to June 30, 1959)

The length of the American Osteopathic Association approved training program for each specialty is 3 years. Each hospital is approved for such program but requires recertification each year.

HOSPITAL	RESIDENCIES	NAME
Allentown Osteopathic Hospital Allentown, Pennsylvania	1	Roentgenology
Art Centre Hospital Detroit, Michigan	3	Anesthesiology
	1	Internal Medicine
	1	Obstetrics & Gynecology
	2	Pathology
	2	Radiology
	2	Surgery
Bangor Osteopathic Hospital Bangor, Maine	1	Roentgenology
	1	Surgery
Bashline Osteopathic Hospital and Clinic Grove City, Pennsylvania	1	Surgery
Bay View Hospital Bay Village, Ohio	1	Diagnostic Roentgenology
Burbank Hospital Burbank, California	1	Diagnostic Roentgenology
	1	Surgery
Chicago Osteopathic Hospital Chicago, Illinois	1	Anesthesiology
	2	Internal Medicine
	2	Obstetrics & Gynecology
	1	Pathology
	1	Pediatrics
	1	Roentgenology
	1	Surgery
Dallas Osteopathic Hospital Dallas, Texas	2	Anesthesiology
	1	Pathology
	2	Surgery
Des Moines General Hospital Des Moines, Iowa	1	Anesthesiology
	1	Radiology
	2	Surgery
Detroit Osteopathic Hospital Detroit, Michigan	6	Anesthesiology
	6	Internal Medicine
	5	Obstetrics & Gynecology
	2	Ophthalmology & Otorhinolaryngology
	3	Orthopedic Surgery
	4	Pathology
	4	Radiology
	8	Surgery
Doctors Hospital Columbus, Ohio	2	Anesthesiology
	2	Internal Medicine
	1	Obstetrics & Gynecology
	2	Ophthalmology & Otorhinolaryngology
	2	Orthopedic Surgery
	3	Radiology
	4	Surgery
Doctors Hospital Los Angeles, California	1	Surgery
Flint General Hospital Flint, Michigan	1	Anesthesiology
	1	Radiology
	1	Surgery
Flint Osteopathic Hospital Flint, Michigan	2	Anesthesiology
	2	Internal Medicine
	2	Obstetrics & Gynecology
	2	Pathology
	1	Pediatrics
	2	Radiology
	1	Surgery
Fort Worth Osteopathic Hosptal Fort Worth, Texas	1	Surgery
Garden City-Ridgewood Hospitals Garden City, Michigan	2	Anesthesiology
	2	Diagnostic Roentgenology
	1	Obstetrical-Gynecological Surgery
	2	Obstetrics & Gynecology
	1	Pathology
	2	Surgery
Glendale Community Hospital Glendale, California	1	Pathology
Grand Rapids Osteopathic Hospital Grand Rapids, Michigan	2	Radiology
	4	Surgery
Grandview Hospital Dayton, Ohio	2	Anesthesiology
	1	Internal Medicine
	1	Obstetrics & Gynecology
	1	Ophthalmology & Otorhinolaryngology
	2	Orthopedic Surgery
	1	Pathology
	1	Pediatrics
	2	Roentgenology
	3	Surgery
Green Cross General Hospital Cuyahoga Falls, Ohio	1	Surgery
Hospitals of the Kansas City College of Osteopathy and Surgery Kansas City, Missouri	2	Anesthesiology
	3	Internal Medicine
	2	Obstetrics & Gynecology
	1	Obstetrical-Gynecological Surgery
	2	Orthopedic Surgery
	2	Pathology
	1	Pediatrics
	1	Proctology
	2	Radiology
	2	Surgery
Hospitals of Philadelphia College of Osteopathy Philadelphia, Pennsylvania	6	Anesthesiology
	5	Internal Medicine
	3	Obstetrical-Gynecological Surgery
	2	Ophthalmology & Otorhinolaryngology
	1	Orthopedic Surgery
	4	Pathology
	2	Pediatrics
	5	Radiology
	9	Surgery
	1	Urological Surgery
Kirksville Osteopathic Hospital Kirksville, Missouri	2	Anesthesiology
	2	Internal Medicine
	1	Obstetrics & Gynecology
	2	Ophthalmology & Otorhinolaryngology
	2	Pathology
	1	Pediatrics
	1	Roentgenology
	2	Surgery
Lakeside Hospital Kansas City, Missouri	1	Anesthesiology
	1	Obstetrical-Gynecological Surgery
	1	Radiology
	2	Surgery
Lakeview Hospital Milwaukee, Wisconsin	1	Internal Medicine
	1	Surgery
Lancaster Osteopathic Hospital Lancaster, Pennsylvania	1	Anesthesiology
	1	Pathology
	1	Roentgenology
	2	Surgery
Laughlin Hospital & Clinic Kirksville, Missouri	2	Surgery
Long Beach Osteopathic Hospital— Magnolia Hospital Long Beach, California	1	Anesthesiology
	1	Diagnostic Roentgenology
	1	Internal Medicine
	1	Obstetrics and Gynecology
	1	Pathology
	1	Surgery
Los Angeles County Osteopathic Hospital Los Angeles, California	2	Anesthesiology
	10	Internal Medicine
	2	Neurology & Neurosurgery
	2	Obstetrics & Gynecology
	2	Ophthalmology & Otorhinolaryngology
	2	Orthopedic Surgery
	4	Pathology
	2	Pediatrics
	2	Physical Medicine & Rehabilitation
	4	Radiology
	3	Surgery
	2	Urological Surgery
Massachusetts Osteopathic Hospital Boston, Massachusetts	1	Surgery
Maywood Hospital Maywood, California	1	Obstetrics and Gynecology
McLaughlin Osteopathic Hospital Lansing, Michigan	1	Pathology
Metropolitan Hospital Philadelphia, Pennsylvania	2	Internal Medicine
	1	Ophthalmology & Otorhinolaryngology
	1	Orthopedic Surgery
	1	Pediatrics
	2	Radiology
	2	Surgery
Mount Clemens General Hospital Mount Clemens, Michigan	1	Anesthesiology
	1	Diagnostic Roentgenology
	2	Internal Medicine
	2	Pathology
	1	Surgery
Muskegon Osteopathic Hospital Muskegon, Michigan	1	Diagnostic Roentgenology
Normandy Osteopathic Hospital St. Louis, Missouri	1	Anesthesiology
	1	Roentgenology
	1	Surgery
Oklahoma Osteopathic Hospital Tulsa, Oklahoma	1	Diagnostic Roentgenology
	1	Proctology
	2	Surgery
Osteopathic Hospital of Harrisburg Harrisburg, Pennsylvania	1	Internal Medicine
Osteopathic Hospital of Maine Portland, Maine	1	Anesthesiology
	1	Internal Medicine
	1	Pathology
	1	Radiology
	1	Surgery
Parkview Hospital Toledo, Ohio	1	Roentgenology
	1	Surgery
Riverside Osteopathic Hospital Trenton, Michigan	2	Anesthesiology
	1	Diagnostic Roentgenology
	1	Internal Medicine
	2	Obstetrics & Gynecology
	2	Surgery
Riverview Osteopathic Hospital Norristown, Pennsylvania	1	Roentgenology
	1	Surgery
Rocky Mountain Osteopathic Hospital Denver, Colorado	1	Radiology
	1	Surgery
Saginaw Osteopathic Hospital Saginaw, Michigan	1	Anesthesiology
	1	Roentgenology
	2	Surgery
South Bend Osteopathic Hospital South Bend, Indiana	1	Diagnostic Roentgenology
Stevens Park Osteopathic Hospital Dallas, Texas	1	Surgery
Still Osteopathic Hospital Des Moines, Iowa	1	Diagnostic Roentgenology
	2	Internal Medicine
	1	Obstetrics & Gynecology
	1	Pediatrics
	1	Surgery
West Side Osteopathic Hospital of York York, Pennsylvania	1	Radiology
	2	Surgery
Wilden Osteopathic Hospital Des Moines, Iowa	1	Diagnostic Roentgenology
	1	Internal Medicine
Zieger Osteopathic Hospital Detroit, Michigan	1	Anesthesiology
	1	Internal Medicine
	2	Obstetrics & Gynecology
	2	Roentgenology
	2	Surgery

Current Literature

Ectopic pregnancy

▶ A SYMPOSIUM on ectopic pregnancy appears in the September 1958 *American Journal of Obstetrics and Gynecology*. The eight articles in the series comprise an interesting and many-sided study of this problem.

Harold Speert, M.D., uses the occasion of ectopic pregnancy to make some observations on the uterine decidua from a biologic standpoint. He reports 12 cases of ectopic pregnancy, varying from 4½ weeks to full term, in which histologic studies of the endometrium were performed on excised uteri. He was thus able to report observations on the purely hormonal influences of pregnancy on the decidua, without having to consider directly the chemical action of trophoblasts or the physical pressure of the conceptus. Dr. Speert concluded that in normal pregnancy all these factors have an influence: the decidual stromal response and gestational glandular development reflect hormonal stimulation, while the coagulation necrosis in the decidua basalis and attenuation of the decidua vera may be considered to result from local chemical and mechanical influences of the trophoblasts and the fetal sac.

In Dr. Speert's series of ectopic pregnancies, he found the uterine decidua to vary in thickness from 2.2 mm. to 1.4 cm.; these thicknesses did not correlate with the stage of gestation, nor with the viability or death of the trophoblast (though in 2 of the 4 cases where death of the trophoblast occurred, the endometrium had reverted to its nonpregnant condition). Various observations are noted in Dr. Speert's report, in an effort to classify changes occurring in different gestational stages, and individual case reports are given. On the basis of his observations, he suggests that decidual changes may initiate labor in a normal pregnancy. Further, he postulates that vaginal bleeding in ectopic pregnancy (occurring in 10 of his 12 cases) may be considered the counterpart of physiologic bleeding in normal pregnancy, and that it probably results from the same vascular phenomena that produce menstrual bleeding.

Among the interesting case reports is one reported by Lamia El-Bedri, M.B., of Bagdad, Iraq, concerning a woman whose ectopic pregnancy resulted from infection by Schistosoma haematobium. This woman had been sterile for 3½ years prior to this incident; during this time the infection had caused thickening, fibrosis, and narrowing of the fallopian tube. The partial obstruction of the tube resulted in pregnancy occurring in an ectopic site.

Emmet D. Moyers, Jr., M.D. and Arthur Lack, M.D., report a case of primary ovarian pregnancy according to the criteria of Spiegelberg. This is followed by a paper by Denis Cavanagh, M.D., on primary peritoneal pregnancy. In his discussion Dr. Cavanagh questions whether this diagnosis may often be a rationalization, and offers omental transference as an alternative explanation. He feels that, since tubal pregnancy is comparatively common, and since the ability of the placenta to invade visceral and parietal peritoneum has been demonstrated, that many "primary peritoneal" pregnancies are actually tubal pregnancies that have gradually transferred to some other part of the abdominal cavity as a result of slow tubal rupture. A secondary omental implantation takes place, and then the ovum itself may gradually transfer to any part of the abdominal cavity. The theory of omental transference, as well as disproving most or all of diagnoses of primary abdominal pregnancy, would provide a better explanation than that of placental migration for the frequent finding of the placenta at a point removed from the genital tract. Although proof in either direction is very difficult, Dr. Cavanagh develops his basic theory quite extensively.

One case report by Paul E. Demick, M.D., and Denis Cavanagh, M.D., concerns unilateral tubal twin pregnancy, and another by A. P. Zlatnik, M.D., S. L. Weld, M.D., Sydney S. Schochet, Jr., and Sydney S. Schochet, M.D., concerns combined tubal and intrauterine pregnancy. Both of these are rare happenings, with only a few cases of each having been reported previously.

The next paper in the series, by Robert M. Hunter, M.D., Arthur A. Hartley, M.D., Frank Tropea, Jr., M.D., and Alexander W. Ulin, M.D., is a case report of abdominal pregnancy followed by elimination of the placenta through the bladder. The infant was viable, and after extraction of the child by laparotomy it was noted that the placenta was of unusual size and was firmly adhered to the intestinal loops. At a second operation 10 days later, it was found that the placenta was still viable and was causing intestinal obstruction. Separation of the intestinal loops was performed. After a stormy postoperative period, the patient was discharged; at examination 2 months later she reported attacks of pain and the passage of placental material in the urine. Eventually these complications subsided and she resumed normal menstrual flow.

The final paper in the series is by Milton S. Weinberg, M.D., Michel Salz, M.D., and Serge Funaro, M.D.; it concerns a typical case of intra-abdominal pregnancy with follow-up for diappearance of placental activity. Both errors in diagnosis and the final good results are reported.

Ultrasound in medicine

▶ WHILE THE PHYSICAL nature of ultrasound has been well described, there is less general agreement as to its effects than formerly, says Murray M. Freed, M.D., in the September 1958 issue of *The Medical Clinics of North America*. The bulk of evidence indicates that effects are produced mainly by thermal and partly by mechanical means. The ability to produce a unique

thermal effect, unduplicated by any other modality now available, through differential heating at interfaces between different tissues and differences in absorption rate has been demonstrated and accepted. Ultrasound is a valuable measure when used as an adjunct to standard therapeutic measures and finds its greatest usefulness in management of diseases manifesting pain and spasm as a result of myositis, fibrositis, bursitis, arthritis, periarthritis, and tenosynovitis. It has also been beneficial in treatment of painful neural disorders and scar tissue contractures. Its advantages over other methods of diathermy consist of ease of application, considerably shorter treatment period, and better beaming characteristics. The disadvantage is the narrower margin of safety as compared to short wave and microwave diathermy. Dosage remains empirical. Though the output energy of the sound head can be measured accurately, a numerically precise relationship between the exact intensity in watts per square centimeter and any biologic reaction remains to be established. There are no delayed or cumulative effects of ultrasound as are found with exposure to x-rays. In the presence of normal sensation, pain or discomfort is evidence of excess dosage. Information from reports describing large numbers of treatments confirms the belief that ultrasound is a safe therapeutic device when applied under the limits of recognized dosage and in accordance with contraindications.

The epidemiology of psittacosis and report of a turkey-borne outbreak

▶ THE FIRST CLEARLY recorded description of the epidemiology of psittacosis was made in 1880, according to Robert D. Leachman, M.D., and Ellard M. Yow, M.D., in the October 1958 issue of the *A.M.A. Archives of Internal Medicine*. The first major outbreak occurred in 1892 in Paris, following the shipment of 500 parrots from Buenos Aires. During a smaller outbreak in Paris in 1896 Salmonella typhimurium (Bacillus psittacosis) was isolated for the first time from a patient. Agglutination of the organism when subjected to the Widal reaction was also shown. The first recorded cases in the United States were reported in 1904. In 1930 a virus was isolated from a filtrate of organ suspension of parrots responsible for human outbreak. Also budgerigars were infected with citrated blood, blood serum, and pleural exudate from patients with the disease. In 1935 a satisfactory complement-fixation reaction that provided a simple method for establishing the diagnosis clinically was developed. The next major epidemiologic discovery was the presence of virus in other bird species and the development of human illness from exposure to nonpsittacine birds and possibly from mammals.

Although psittacine birds are responsible for most of the small "house-epidemics," psittacosis as an occupational disease among workers in poultry-processing plants, especially among those working with turkeys, has become important in Texas. In Houston, Texas, in 1956, 20 of 41 employees of such a plant had a symptomatic illness, and 13 of the 41 had a rising complement-fixing antibody titer. One patient did not seek medical aid until symptoms had been present a week and died 5 days later despite intensive antibiotic therapy. The group most affected worked in the unloading and picking areas, where fluttering of wings stirred up dust from the droppings and feathers. The patient who died was employed in this area and had also the duties of janitor and of killing the birds. The infection was traced to a flock of turkeys processed in the plant 1 week prior to the first illness. Psittacosis virus was isolated from frozen, "dressed" turkeys and from live turkeys remaining at the farm.

Simultaneous cholecystography and urography with a new medium "Duografin"

▶ A NEW MEDIUM for use in abdominal diagnostic problems where the history suggests involvement of either the biliary or the renal system or in routine examinations when time is a factor is described by Theodore L. Orloff, M.D., in the October 1958 issue of *The American Journal of Roentgenology, Radium Therapy and Nuclear Medicine*. Duografin is a mixture of 40 per cent Renografin for urography and 20 per cent Cholografin for cholecystography and choledochography, both media present as the methylglucamine salt in aqueous solution. After intravenous administration, Renografin is carried to the kidneys and excreted in sufficient concentration to permit optimum opacification of the renal structures in 7 minutes. Cholografin is carried to the liver, reaching optimum opacification in 15 minutes. The solutions are given over a period of 5 to 10 minutes, and 30 to 40 cc. of the medium are used for optimum contrast. The supine position with the left side elevated is used for duct visualization. The usual technic is used for roentgenography of the kidneys, ureters, and bladder. Nausea and, on occasion, vomiting seem to be the major symptoms of toxic effects. In 25 cases, there were no severe reactions. The common duct was visualized in all but 1 case, and visualization was for the main part only fair. The urinary tract was visualized in all cases, and urograms were considered satisfactory.

Reversibility of pregangrene in the severely ischemic limb

▶ ACCORDING TO A. W. Humphries, M.D., V. G. Dewolfe, M.D., and F. A. Lefevre, M.D., in the October 1958 issue of *The Journal of Bone and Joint Surgery*, the idea of the inevitability of amputation in the severely ischemic limb must be re-evaluated in light of the present practicability of arterial grafting. Although blood flow should be re-established as soon as possible in severely ischemic limbs, the limit of 6 to 8 hours after embolic occlusion as the period during which embolectomy may be successful is much too small. As a rule if blood remains fluid in the veins of the foot, no matter how poorly they may fill, chances are good for restoration of the limb by arterial surgery. Slow, progressive arteriosclerotic occlusion in older patients is the commonest cause of amputation. In such cases, when occlusion of the artery is finally complete, collateral circulation may have developed to such an extent that the only symptom of occlusion is intermittent claudication. This is not an end result but the first

symptom of decreasing blood supply to the lower extremity. When loss of flow reaches a certain level, rest pain occurs. A patient with rest pain may develop an ulcer from even trivial injuries to the foot. Segmental occlusions are amenable to surgical treatment; nonsegmental occlusions, in the absence of a patent lumen distally to which a new vessel could be attached, are not amenable to direct surgical treatment.

Arteriography and direct surgical exploration are the only means of determining the type of occlusion. If an arteriogram shows obviously adequate outflow, an attempt at grafting is done as a primary procedure. If an arteriogram shows an obviously nonsegmental occlusion, grafting is not considered and a sympathectomy is usually performed on the principle that it may lower the level of eventual amputation even if it does not save the limb. When arteriograms are equivocal, distal exploration in the lower portion of Hunter's canal or in the popliteal space is frequently used. In the authors' cases, only 38 per cent of 66 patients who had sympathectomy required amputation during a follow-up period of up to 7 years. Best results were obtained in patients who had only rest pain and not ulcer, gangrene, and acute occlusion. In this series, 44 per cent of patients were improved and 18 per cent remained the same, while 38 per cent underwent amputation. This is a salvage rate for the sympathectomy group of about one half. In the series of patients who had grafts, 82 per cent were improved, 6 per cent remained the same, and 12 per cent underwent amputation.

Medicines, miracles and mischief

▶ A NEW TYPE OF reaction to drugs in which actual disease states are mimicked is discussed by Jesse D. Rising, M.D., in the September 1958 issue of *Postgraduate Medicine*. A dramatic example of this kind of response is sometimes called the hydralazine (Apresoline) syndrome. It comprises two types of illness. The first is rather typical rheumatoid arthritis complete with all the expected laboratory findings. The more severe form is less common and nearly identical with acute disseminated lupus erythematosus, including a biologic false-positive reaction for syphilis and the L.E. cell phenomenon. In patients receiving hexamethonium, with or without hydralazine, a respiratory disturbance has developed that is characterized by sudden onset of dyspnea, cyanosis, fever, cough, and chest pain. It may lead to death in 1 month. In patients being given mecamylamine (Inversine), neurotic reactions characterized by anxiety or depression or both have developed. Some patients have had neurologic reactions similar to chorea, some have had grand mal epilepsy, and some have developed major psychoses. Reserpine has proved to be one of the most dangerous of the tranquilizers. Psychic depression is commonly seen in patients receiving it, and numerous suicides have been reported. The phenothiazine tranquilizers frequently cause an extrapyramidal syndrome that is often indistinguishable from parkinsonism. Besides producing peptic ulcers, adrenocortical hormones frequently cause euphoria, which indicates affective changes that may lead to frank psychotic episodes. Grand mal epilepsy has also developed in more than a few patients receiving corticoid therapy. Cycloserine, one of the newer antibiotics that shows promise in treatment of tuberculosis, has a narrow therapeutic range, and even a slight overdose may cause grand mal seizures. Isoniazid is not now believed to cause psychotic reactions, but it does cause peripheral neuritis, which if allowed to progress may become permanent. Physicians must be careful to avoid purposeless meddling with the use of drugs in the expectant mother. It is thought that x-ray, cortisone, and corticotropin (ACTH) are teratogenic. The thoughtful physician should use drugs with the full realization that he is taking a calculated risk, weighing the chances for cure against the ever-present possibility that harm may be done.

Severe motility disturbance after small doses of prochlorperazine

▶ IN THE OCTOBER 23, 1958, issue of the *New England Journal of Medicine*, C. D. Christian, Ph.D., M.D., and George Paulson, M.D., report the case of a man, 20, who received prochlorperazine (Compazine) for nausea and vomiting connected with a respiratory illness. The drug was given in 10 mg. doses intramuscularly, with a total of 70 mg. being administered over a 3-day period. On the third day of medication, neck, tongue, and pharyngeal muscle spasm developed, and this was followed in 2 hours by marked spasm of the erector spinae muscles, resulting in opisthotonos. The patient was in marked distress for 4 hours after the onset of the episode, and laryngospasm occurred briefly on two occasions. While amobarbital sodium was being given in preparation for a tracheotomy, the tetanic contractions in neck and shoulders ceased, breathing was no longer labored, and the patient fell asleep. On the following day neurologic findings were normal. This case illustrates that the so-called extrapyramidal syndrome induced by prochlorperazine is not always associated with large doses, nor is it always mild. Since the reactions could be mistaken as a manifestation of the basic disease problem in any given case, it seems necessary to be aware of such side-effects. Cautious induction of sleep may be the simplest effective treatment for these drug-induced reactions.

Apparatus to supply isotonic irrigating fluid during transurethral prostatic resection

▶ IN THE SEPTEMBER 3, 1958, issue of the *Proceedings of the Staff Meetings of the Mayo Clinic*, John L. Emmett, M.D., and Anthony Papantoniou, M.D., describe an apparatus that has been used at the clinic to supply irrigating fluids. The tank itself is a 41½ quart cast aluminum commercial pressure cooker which is connected to an overhead sterile water supply. The amount of fluid in the tank is registered by a sight gauge mounted on the side of the tank. The length of plastic tubing, in which the fluid level is always visible, is secured to metal fittings at top and bottom with strong fishline. There are three holes in the lid of the cooker. One is fitted with an adapter into which a sterile funnel can be inserted for filling with cytal or other concentrated solution. The opening can be closed with a sterile screw cap. In the second fitting there is a long aluminum tube that extends to the bottom of the tank. The outside end of the tube has a slip-on connection that permits easy connection and disconnection

with rubber tubing. Water from the overhead supply is introduced through an inlet tube, then this tube is removed and a long delivery tube leading to the resectoscope is attached. A third connection is for compressed air to force fluid out of the tank. Probably the most important part of the apparatus is the precision pressure regulator, which provides a constant predetermined pressure of air inside the tank. The Tycos pressure dial gauge has been changed to read directly in "feet of water above the floor level," so that constant pressure is maintained regardless of amount of fluid in the tank or rate of flow of fluid to resectoscope. The pressure can be adjusted at any time to accommodate a change of operating situation, such as elevation of operating table, spasticity of bladder, or excessive bleeding. The apparatus was largely constructed from products readily available commercially, so that no special manufacturing process is necessary. It is easily handled and surgical nurses have been pleased with the ease of maintaining it.

Avoiding colostomy in colon surgery

▶ ALTHOUGH COLOSTOMY may sometimes be lifesaving, it is often performed unnecessarily and without strong indications, says Alexander Solosko, M.D., in the October 1958 issue of the *American Journal of Proctology*. In spite of cheerful reports to the contrary, many patients with colostomies avoid social contacts and are plagued by a nuisance. Although the abdominoperineal resection with colostomy is comparatively simple technically, the surgeon who realizes that he may save a patient years of discomfort will not hesitate to undertake the much more difficult anterior resection. "Internal" colostomy is preferable to even a temporary colostomy. When there is partial obstruction of the right side, an internal colostomy or bypassing can be performed. In the second stage, resection is done, the anastomosis already having been made in the first operation. For lesions in the hepatic flexure, the terminal ileum is transected as well as the transverse colon, and the proximal ileum is anastomosed to the distal transverse colon; the terminal ileum is brought out on the skin. At the second stage, when conditions are more favorable, it is relatively easy to remove the right side of the colon and terminal ileum. The patient should have very little reaction since the anastomosis is already functioning. For lesions low in the descending sigmoid or rectosigmoid, a heavy catheter can sometimes be carefully passed by means of the sigmoidoscope through the point of obstruction; in this way a temporary colostomy can be avoided. Use of a low resection instead of the abdominoperineal procedure does not affect survival rates. Colostomy should not be performed on patients in the last stages of cancer, since this would only make their last days more miserable.

BOOK REVIEWS

Books for review which were received during the period from November 5 to December 5 are listed on advertising pages 158, 159, and 160. Reviews of these books will be published as space permits.

▶ COUNTERFEIT-SEX. Homosexuality, Impotence, Frigidity. By Edmund Bergler, M.D. Ed. 2. Cloth. Pp. 380. Price $6.50. Grune & Stratton, 381 Fourth Avenue, New York 16, 1958.

Modern social problems bring out into the open situations that formerly were safely hidden behind the bedroom door. However, marriage and its relationships are becoming less and less intimately private and more and more matters of unabashed discussion and disclosure. The physician especially is faced with details of things that "no one used to talk about," and difficulties in the sexual sphere are no longer held back by timidity. No conditions are more disturbing than impotence and frigidity, and no affliction has the terrifying implications that homosexuality carries for the covert case. Bergler boldly and incisively tackles all three of these states in this single volume.

The author is a seasoned writer, having published seventeen books and numerous articles all in the same general area: the mechanisms of mind as they pertain to behavioral disturbances. His experience is not entirely a benefit to the clarity of his work, however, for he is so steeped in the difficult terminology of psychoanalysis that he forgets that his readers are not all as adept in reading what he so easily writes. His style is a combination of technical expressions and lay terms describing the mechanism behind these sexual problems. The latter, unfortunately, he hurries through. It would probably lengthen the book to explain everything in detail, but it would leave a clearer idea in the mind of the reader. The psychiatrist familiar with Freudian theory will not have too much difficulty; for him the book is an excellent review.

The author goes into considerable detail, discussing every form of impotence, frigidity, and homosexuality. This is unique to the book, for rarely can as extensive coverage in as clear language be found in the literature. Physicians will welcome the careful consideration given to the various forms of the sexual symptom complexes. The greater portion of the book is devoted to impotence and male homosexuality, but since the mechanisms discussed are somewhat similar in the female he has little difficulty covering the female problems adequately.

Bergler is an authority on the topic about which he writes, and he is refreshingly positive. It would be hard to find in the literature a prognostic statement about these cases such as that 75 per cent of "oral" cases are curable in 2 to 2½ years; "anal" cases, 75 per cent

in 1½ years; and "phallic" cases, nearly 100 per cent in 6 to 8 months. It is not implied that anyone can attain these results, but he shows what the application of skill comparable to his own can expect to accomplish. He states, "Lesbianism has in most cases, as does male homosexuality, an excellent prognosis in analysis."

Physicians generally should read this volume. For many it will present quite a new view of old stubborn problems. It will show why androgen and estrogen therapy is so inadequate and fruitless in the handling of sexual conditions, and will give some insight into other aspects of these patients that would otherwise be overlooked. It must be remembered that Freud's theories have not been proved nor disproved, but with Dr. Bergler's discussion, we can be assured his application at least is demonstrably effective.

THOMAS J. MEYERS, Ph.D., D.O., F.A.C.N.

▶ MODERN TRENDS IN ANESTHESIA. Edited by Frankis T. Evans, M.B., B.S., F.F.A.R.C.S., D.A.; and T. Cecil Gray, M.D., F.F.A.R.C.S. Cloth. Pp. 331, with illustrations. Price $15.00. Paul B. Hoeber (Medical Book Department of Harper & Brothers), 49 East 33rd Street, New York 16, 1958.

This is a must book to the practicing anesthesiologist, whether he is a neophyte or one greatly skilled in his specialty. Two well-known British anesthesiologists have edited a text which presents a review of new knowledge covering a wide area of theory as well as practice.

There are twenty-two chapters written by well-known authorities, among them J. J. Bonica and E. M. Papper. The result is an excitingly new type of book, in that there are expressed speculation and thoughts for the future. As stated in the preface, a book such as this needs to be "chewed and digested."

Accent on the basic sciences is nothing new in modern anesthetic practice, and this book is no exception to the trend. There are to be found six chapters, each with twenty or more pages, devoted to pharmacology, local anesthesia, regional anesthesia, pulmonary ventilation and control, surgical trauma, and anesthesia and disease. Other chapters which are also "meaty" deal with the newer problems of hypothermia and cardiorespiratory pumps.

The succinct style of writing makes for easy reading and for retention of that which is read. I cannot refrain from emphasizing that every practicing anesthesiologist, every teaching anesthesia department, and every practicing surgeon should have ready access to this book.

A. A. GOLDEN, D.O.

▶ GENERAL PATHOLOGY based on Lectures delivered at the Sir William Dunn School of Pathology, University of Oxford. Edited by Sir Howard Florey, Professor of Pathology. Ed. 2. Cloth. Pp. 932, with illustrations. Price $16.00. W. B. Saunders Company, West Washington Square, Philadelphia 5, 1958.

This is a general textbook of pathology, which varies in its style of presentation from chapter to chapter. This is usual in any book with multiple authors and seems desirable to this reviewer. The brief, skillfully written chapter on "The History and Scope of Pathology" is extremely interesting and easily the outstanding feature of this work. The sequence of chapters has been altered and chapters on thrombosis, metabolic changes following injury, atherosclerosis, and tumors have been added since the first edition appeared in 1953. The work offers a broad base in pathology and pathologic physiology to the student.

GEORGE E. HIMES, D.O.

▶ TUMORS AND TUMOROUS CONDITIONS OF THE BONES AND JOINTS. By Henry L. Jaffe, M.D., Director of Laboratories and Pathologist, Hospital for Joint Diseases, New York, N.Y.; Consultant, Armed Forces Institute of Pathology, Washington, D.C. Cloth. Pp. 629, with illustrations. Price $18.50. Lea & Febiger, Washington Square, Philadelphia 6, 1958.

Among the numerous fine books that have appeared recently on the subject of bone and joint tumors, this is one of the most comprehensive. The problems of classification are considered first, and then a general diagnostic approach. The rest of the book is devoted to specific types of tumors and tumorous conditions. Each type is considered from descriptive and clinical standpoints, and is illustrated with roentgenograms, photographs of gross and microscopic specimens in various magnifications, and occasionally with photographs of patients affected with the condition being described.

It could be predicted that this book may become a classic in its field with the passing of time. Its well-organized text, excellent illustrative material, and adequate referencing and indexing all would point toward that end.

▶ AMID MASTERS OF TWENTIETH CENTURY MEDICINE. A Panorama of Persons and Pictures. By Leonard G. Rowntree, M.D., Formerly Western Medical School, Victoria Hospital, London, Canada; The Johns Hopkins Medical School; Professor of Medicine, University of Minnesota, Chief of Medicine, Mayo Foundation; Director of Philadelphia Institute for Medical Research; Executive Officer of the A.E.F. Air Service (Medical), World War I; Chief of Medicine, National Headquarters of Selective Service, World War II; Colonel, M.R.C., U.S.A.; Presently Chairman, Medical Advisory Board, The American Legion; Chairman, Dean's Committee, V.A. Hospital, Coral Gables, Co-Founder, University of Miami, School of Medicine. Cloth. Pp. 684, with illustrations. Price $11.50. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1958.

A fascinating collection of personal memoirs and biographical sketches of leaders in modern medicine are contained in this unusual book by Leonard G. Rowntree, M.D. "Lives" of eminent physicians are presented, not specifically to give factual information but as a man would describe his friends. Incidents described are often amusing, as is this story about S. Weir Mitchell, who "always made his own diagnosis":

> . . . the patient was considered sick unto death. Dr. Mitchell sent all assistants and attendants out of the room. Then he emerged. They asked if she had any chance of survival. He said, "Yes, she will be running out through that door inside of two minutes." Some asked, "Why?" He said, "Before I left I set the sheet on fire." Within a minute she appeared, running and screaming; she was cured of her hysteria.

There are rather complete sketches of the personalities surrounding the Johns Hopkins Hospital and Medical School, the Mayo Clinic, and the Rockefeller Institute for Medical Research, which are considered

by the author to be institutions of special significance. Along with reports of the progress of the institutions, there are "human touches" on every page. An example would be Dr. Rowntree's description of patients' different attitudes toward the great brothers Mayo:

In the parlor car, Mrs. Rowntree overheard this woman telling a group of ladies about the Mayo Clinic. "They are both nice, and both good-looking," said she, "but Dr. Charlie is commoner than Dr. Will. Dr. Will is awful nice, but you can't ever get to know him very well. Dr. Charlie is just as nice, everyone can always get next to him. You know he is really one of us. He treats patients always as if you were one of his own family.

His tributes to men who have been leaders are too numerous even to choose examples, but each is given for a personal reason and in an individual manner. Dr. Rowntree states his case in this way: "In publishing this book, I have but one regret—it concerns my sins of omission in passing by so many eminent confreres who merit inclusion." However, the reader will probably be more interested by his work's inclusions than troubled about its lacks. The album of portraits here presented, both verbal and pictorial, will be absorbing to its intended audience.

▶ THE PASTEUR FERMENTATION CENTENNIAL 1857-1957. A Scientific Symposium. On the occasion of the one hundredth anniversary of the publication of Louis Pasteur's Memoire sur la fermentation appelee lactique. Cloth. Pp. 207, with illustrations. Chas. Pfizer & Company, 11 Bartlett Street, Brooklyn 6, 1958.

The complete proceedings of a 1957 research conference celebrating the hundredth anniversary of Pasteur's publication of his paper on fermentation of lactic acid by living organisms consists of twenty papers by as many scientists from six countries. The fields covered include cellular and biochemical interrelationships between host and parasite, trends in antibiotic research, and a symposium on fermentation chemicals. The research reported is, in the estimate of one of the participants of the conference, "convincing evidence of the continuing germinal power and impact of Pasteur's great insight."

▶ ADVANCES IN ELECTROCARDIOGRAPHY. Edited by Charles E. Kossmann, B.S., M.D., Med.Sc.D., F.A.C.P.; Associate Professor of Medicine, New York University College of Medicine; Visiting Physician, Bellevue Hospital; Attending physician in Cardiovascular Diseases, Lenox Hill Hospital; Attending Physician, University Hospital, New York. Cloth. Pp. 280, with illustrations. Price $9.75. Grune and Stratton, 381 Fourth Avenue, New York 16, 1958.

Perhaps the best summary of this book is the description of the postgraduate course for which the lectures contained herein were prepared:

The objective of the course will be to familiarize the student with the most recent advances in electrocardiography considered to be of the greatest immediate or future significance. Since most of these advances have been of a fundamental nature, the course itself must of necessity be on a relatively fundamental level. Although the clinical implications of the newer electrocardiographic knowledge will be discussed, exercises in clinical interpretation of records will not be included in the course.

Because the course, which was offered at the request of the American College of Physicians, was such an overwhelming success, it was decided to make available the substance of it to other physicians as well.

Among the many books on electrocardiography that are appearing, this one is in some senses unique. The notable sparsity of direct clinical correlations reflects the editor's wary approach to empirical interpretations of the ECG, as opposed to his desire to present, interpret, and integrate all that is truly factual among recent advances. Accordingly, major sections deal with the bioelectric mechanisms of the myocardium, the relation of various leads to the conducting medium and the electric field of the heart, normal and abnormal spread of excitation and recovery, and the meanings of rhythms. Within these sections are articles dealing with the most recent advances in each field, presented in such a way that the clinician can draw from principles the tentative conclusions that necessarily characterize a science not yet finished in discovery and advance.

Illustrations, references, and index all add to the usability of the book.

▶ EMERGENCY TREATMENT AND MANAGEMENT. By Thos. Flint, Jr., M.D., Director, Division of Industrial Relations, Permanente, Medical Group, Oakland and Richmond, California; Chief, Emergency Department, Permanente Medical Group, Kaiser Foundation Hospital, Richmond, California. Ed. 2. Paper. Pp. 539. Price $8.00. W. B. Saunders Company, West Washington Square, Philadelphia 5, 1958.

Outline form and cross-references make recourse to topics in this book easy and quick. It is written for physicians who work with emergency patients, and gives information intended for emergency treatment only until definite therapeutic measures can be arranged.

The section on pediatric emergencies, emphasizing the differences in conditions between children and adults, has been expanded, with particular reference to acute poisoning.

A section on abandonment, court testimony, and malpractice has been added with the author's hope that this information may help to reduce the number of lawsuits for negligence.

▶ INTRODUCTION TO PSYCHIATRIC NURSING. By Marion E. Kalkman, R.N., M.A., Assistant Professor, Advanced Program in Psychiatric Nursing, University of California School of Nursing, San Francisco; Psychiatric Nursing Consultant, Veterans Administration, San Francisco Area. Ed. 2. Cloth. Pp. 331, with illustrations. Price $5.95. McGraw-Hill Book Company, 330 West 42nd Street, New York 36, 1958.

The author emphasizes specific skills and functions of the psychiatric nurse and presents recent changes in psychiatric concepts in this second edition.

Some of the major changes considered in this edition are the movement away from descriptive psychiatry to dynamic psychiatry, increased stress on the importance of interpersonal relationships in etiology and treatment of mental disorder, utilization of new drugs which have made many conventional treatments obsolete, and the rapid rise of group therapy methods.

Chapters on personality growth and development have been expanded to include information which may not be available to the beginning psychiatric nurse. Also expanded are chapters on treatments, with particular emphasis on participation of nurses in the total treatment plan. A detailed plan of nurse-patient therapy is

included. This book, much of it based on the author's experience in teaching on undergraduate as well as graduate levels, is written not only for beginning psychiatric nurses but for all who work with psychiatric patients.

▶ SO YOU HAVE GLAUCOMA. By Everett R. Veirs, M.D., Chief of the Section of Ophthalmology for the Scott and White Clinic, Scott and White Memorial Hospitals, and Scott, Sherwood and Brindley Foundation, Temple, Texas; Lecturer in Ophthalmology at The University of Texas Postgraduate School of Medicine, Temple Division; Chief Oculist at the Gulf, Colorado, and Santa Fe Hospital, Temple, Texas; Consultant in Ophthalmology, Veterans Administration Hospital, Temple, Texas, and United States Army Station Hospital, Fort Hood, Texas. Cloth. Pp. 64, with illustrations. Price $2.75. Grune & Stratton, 381 Fourth Avenue, New York 16, 1958.

The importance of following physicians' instructions, which may mean the difference between vision and blindness, is Dr. Veirs' main emphasis. Although title and preface indicate this is a book the ophthalmologist may recommend to patients after glaucoma has been diagnosed, some sections, especially "Signs and Symptoms," which stress the importance of early detection may make the book a worth-while addition to public libraries.

Throughout the description and definition, which give the reader a better understanding of the disease, the author reemphasizes material that he feels is especially important, and points out that a diagnosis of glaucoma often does not mean future blindness if proper treatment is given.

A list of "Do's and Dont's" is included in the last chapter.

Easy style and the use of second person give the book a conversational character.

▶ RADIOACTIVE ISOTOPES IN CLINICAL PRACTICE. By Edith H. Quimby, Sc.D., Professor of Radiology (Physics), College of Physicians and Surgeons, Columbia University, New York; Sergei Feitelberg, M.D., Director, Physics Department, The Mount Sinai Hospital; Associate Clinical Professor of Radiology, College of Physicians and Surgeons, Columbia University, New York; and Solomon Silver, M.D., Attending Physician; Chief, Thyroid Clinic, The Mount Sinai Hospital; Associate Clinical Professor of Medicine, College of Physicians and Surgeons, Columbia University, New York. Cloth. Pp. 451, with illustrations. Price $10.00. Lea & Febiger, Washington Square, Philadelphia 6, 1958.

Clinical use of radioactive isotopes has only begun within the past 20 years, and broad development in the field much more recently than that; however, the exciting possibilities of it have created a constant demand among physicians for training in developments so far. This book is an outgrowth of postgraduate courses offered in New York City since 1954, and represents an effort to make available to more physicians a systematic resume of current concepts.

The book is written in three parts, with each author contributing a third: Dr. Quimby presents the material on basic physics; Dr. Feitelberg discusses instrumentation and laboratory methods; and Dr. Silver explains clinical applications. Each portion is presented clearly and in an interesting manner. A little more than half of the section on clinical applications is concerned with I^{131}, and most of the remainder concerns other of the more common substances, such as radioactive phosphorus, gold, iron, and cobalt. Typical of the approach is a carefully referenced chapter which summarizes attempts to date at diagnosis of all sorts of conditions, from skin tumors through avascular necrosis of the femoral head, by means of radioactive substances. The success or failure is indicated in each instance, and it is shown where further research is needed.

Helpful appendices give data on convenient conversion factors, useful physical constants, and physical data for isotopes which may be applicable in medicine. Separate author and subject indexes may add to the usefulness of the book.

▶ PHYSICAL EXAMINATION OF THE SURGICAL PATIENT. By J. Englebert Dunphy, M.D., F.A.C.S., Professor of Surgery, Harvard Medical School; Director of 5th Surgical Service and Sears Surgical Laboratory, Boston City Hospital; Consultant in Surgery, Children's Medical Center; and Thomas W. Botsford, M.D., F.A.C.S., Clinical Associate in Surgery, Harvard Medical School; Senior Associate in Surgery, Peter Bent Brigham Hospital; Associate in Surgery, Children's Medical Center. Ed. 2. Cloth. Pp. 375, with illustrations. Price $8.00. W. B. Saunders Company, West Washington Square, Philadelphia 5, 1958.

Intended as a guide for students and reference for practitioners, this book illustrates how to get the most information from the simplest examination. The authors emphasize values in basic principles of examination, hoping that x-ray and laboratory observation, both of which are easy and often seem to give definite results, will not completely replace diagnosis by physical signs.

Two chapters have been added since the first edition. One stresses the importance of details in taking histories; the other, "Special Examination for the Detection of Cancer," includes a classification of cancers and procedures for examination.

Additions also are included in chapters on the head and neck and on peripheral blood vessels.

Although this is a book of technic, Drs. Dunphy and Botsford include necessary discussion of the diseases which patients' symptoms reveal.

The book's new format with many illustrations was designed to make it a quick reference.

▶ THIRST. Physiology of the Urge to Drink and Problems of Water Lack. By A. V. Wolf, Ph.D., Walter Reed Army Institute of Research, Walter Reed Army Medical Center, Washington, D.C. Cloth. Pp. 536, with illustrations. Price $12.50. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1958.

Physiology and sea lore, research and adventure, facts pertinent and facts obscure are combined in this source book on the urge to drink. The type of information included could, on the surface, almost appear to be an encyclopedia of miscellany. Sample topics are: How long can a man or various animals go without water? Can a man dying of thirst cry? What is stickwater? How should limited water supplies be rationed at sea, or in the desert? How much water loss can a man, or various animals, survive? There are descriptions of the plight of the castaway at sea, including both classical and modern accounts, the latter being represented by a reprint of part of Rickenbacker's

"Pacific Mission." There are also discussions of sea water desalting kits, use of natural sources (snow, ice, fish, and cacti and other plants) to supply water in severe need, the curious history of the sea water enema, and recipes for artificial sea water.

On the side of scientific fact, there are reported some biochemical studies on dehydration in man and various animals, and some theoretical and experimental reports on the physiology of thirst, satiety, and the regulation of fluid volume. Clinical aspects are not considered, since a forthcoming companion volume will deal with that phase of the subject. A list of nearly 900 references and a good index complete the book.

The book is one which contains material for both education and entertainment, often both at once. As such it is recommended.

▶ THE MANAGEMENT OF EMERGENCIES IN THORACIC SURGERY. By John Borrie, M.B.E., Ch.M., F.R.C.S. (Eng.), F.R.A.C.S., Thoracic Surgeon, Dunedin Hospital and Southern Metropolitan Region, New Zealand; Senior Lecturer in Thoracic Surgery, University of Otago Medical School. Formerly, Hunterian Professor and Jacksonian Prizeman, Royal College of Surgeons, England; Assistant Thoracic Surgeon, Newcastle-upon-Tyne, England; New Zealand Nuffield Surgical Fellow. Cloth. Pp. 340, with illustrations. Price $10.00. Appleton-Century-Crofts, 35 West 32nd Street, New York 1, 1958.

In the new specialty of thoracic surgery, there are still relatively few texts to guide the physician; this one has been planned to serve as a practical manual to deal with the most common problems for which surgical intervention is contemplated. This should obviate the necessity for searching through texts which contain many varying views, but may obscure the most important points when a critical situation arises in the course of clinical practice.

The contents are worth reviewing, since this list gives a clear idea of what the book contains: General thoracic surgical procedures, including surgical principles, basic management, and preoperative and postoperative care: chest wall emergencies, including fractures, crushing injuries, and wounds; pleural emergencies, including pneumothorax, hemopneumothorax, hemothorax, chylothorax, and acute empyema; pulmonary emergencies, including acute abscess, hemoptysis, postoperative complications of thoracic procedures, and inhaled foreign bodies; esophageal emergencies, including foreign bodies, congenital defects, varices, burns, and perforations; mediastinal emergencies; diaphragmatic emergencies; and cardiac emergencies, including wounds, hemopericardium, purulent pericarditis, and cardiac arrest.

The book is suggested for a wide field of readers, both specialist and nonspecialist, who are concerned with the problems herein described.

▶ CLAYTON'S ELECTROTHERAPY AND ACTINOTHERAPY. A Textbook for Student Physiotherapists. By Pauline M. Scott, M.C.S.P., T.E.T., T.M.M.G., Physiotherapy School, King's College Hospital, London. Ed. 3. Cloth. Pp. 427, with illustrations. Price $6.50. The Williams & Wilkins Company, Mount Royal and Guilford Avenues, Baltimore 2, 1958.

This British text for student physiotherapists has now reached a third edition, having been amplified or reduced as new developments in the field have warranted. The section on physics has been somewhat expanded, and additions have been made by describing the principles of production of valve-generated muscle-stimulating currents, the use of fluorescent tubes for ultraviolet irradiation, and a description of radio interference from short-wave diathermy. The whole of Part 3 has been omitted from the present edition, since the author felt that it now seems out of place to consider treatment by electrical means apart from other forms of physiotherapy; however, the section dealing with the effects and uses of currents and radiations has been revised to include present developments.

For those who may not be familiar with the text from its previous editions, it may be stated that its coverage is of sufficient magnitude to make it worth while both to the student and to the physician who wishes to increase his knowledge in this important field. It is of special interest to compare practices in this country and in England, and to absorb new ideas therefrom.

▶ OBSTETRICAL PRACTICE. By Alfred C. Beck, M.D., Professor Emeritus of Obstetrics and Gynecology, State University of New York, College of Medicine at New York City; Formerly Professor of Obstetrics and Gynecology, Long Island College of Medicine; Formerly Obstetrician and Gynecologist-in-Chief, Long Island College Hospital; Consultant in Obstetrics and Gynecology, Long Island College Hospital, St. Peter's Hospital and Norwegian Hospital, Brooklyn, N.Y., U.S. Naval Hospital, St. Albans, N.Y., Vassar Brothers Hospital and St. Francis Hospital, Poughkeepsie, N.Y.; and Alexander H. Rosenthal, M.D., Clinical Associate Professor of Obstetrics and Gynecology, State University of New York, College of Medicine at New York City; Chief Obstetrician and Gynecologist, Long Island Jewish Hospital, New Hyde Park, N.Y.; Consultant in Obstetrics and Gynecology, Long Island College Hospital; Attending Obstetrician and Gynecologist, Kings County Hospital and formerly Attending Obstetrician and Gynecologist, Long Island College Hospital, Brooklyn, N.Y. Ed. 7. Cloth. Pp. 1115, with illustrations. Price $14.00. The Williams & Wilkins Company, Mount Royal and Guilford Avenues, Baltimore 2, 1958.

Recent observations in clinical experiences of obstetricians have led to new concepts in the field and to applying more stress in certain areas of earlier knowledge.

Rewriting the chapters on development, structure, and physiology of the placenta was necessary in view of recent evidence which shows that throughout pregnancy the placenta is more important in the interchange of substances between maternal and fetal circulation than was believed previously.

The authors emphasize again the value of watching diet and weight, and although various uses of roentgenography are indicated, they advise against unnecessary routine x-ray examination.

The chapter on umbilical cord prolapse has been rewritten to include common causes, etiologic factors, prophylactic cures, and prognoses. Discussion on umbilical cord abnormalities has been expanded because of an increase in perinatal mortality from this cause in many obstetric clinics.

Other revisions are found in sections on retained and adherent placenta, multiple pregnancy, chorioadenoma, and etiology and treatment of hydramnios.

Additions and changes which have been made in this edition aid in maintaining the initial purpose of the book, "to present the essentials of obstetric practice to undergraduates and young practitioners."

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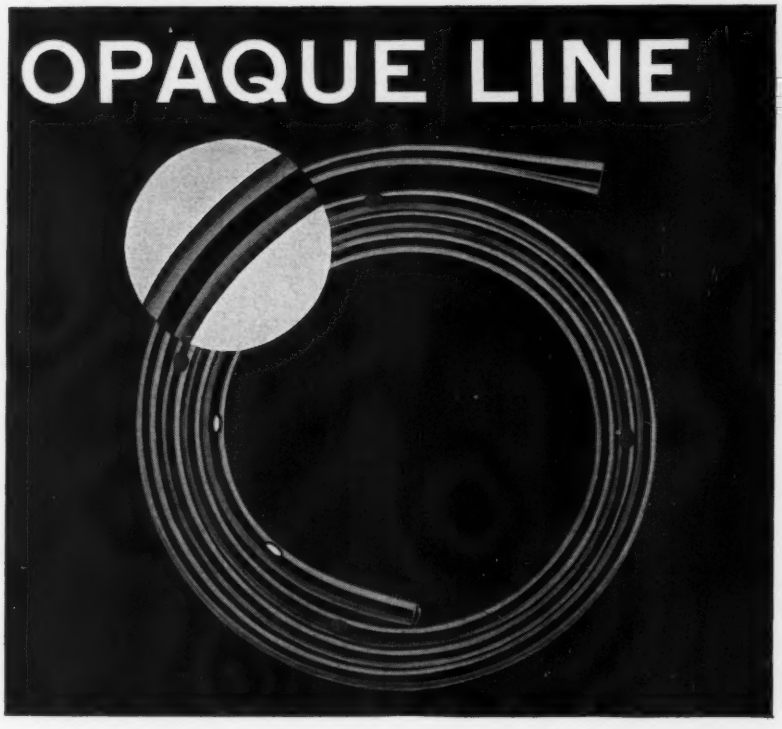

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1. Lawler, E. G. and Limperis, N.M.: Clin. Med. (Dec.) 1958. 2. Medical Science, 3:376-377 (Mar. 25) 1958. 3. Cavallito, C. J. and Jewell, R.: J. Am. Pharm. A. (Scient. Ed.) 47:165-168, 1958. 4. Antibiotic Med. & Clin. Therapy 5:578-581 (Sept.) 1958.

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Director of Medical Services

*P. H. Long, Ann. New York Acad. Sc., 69:385, 1957.

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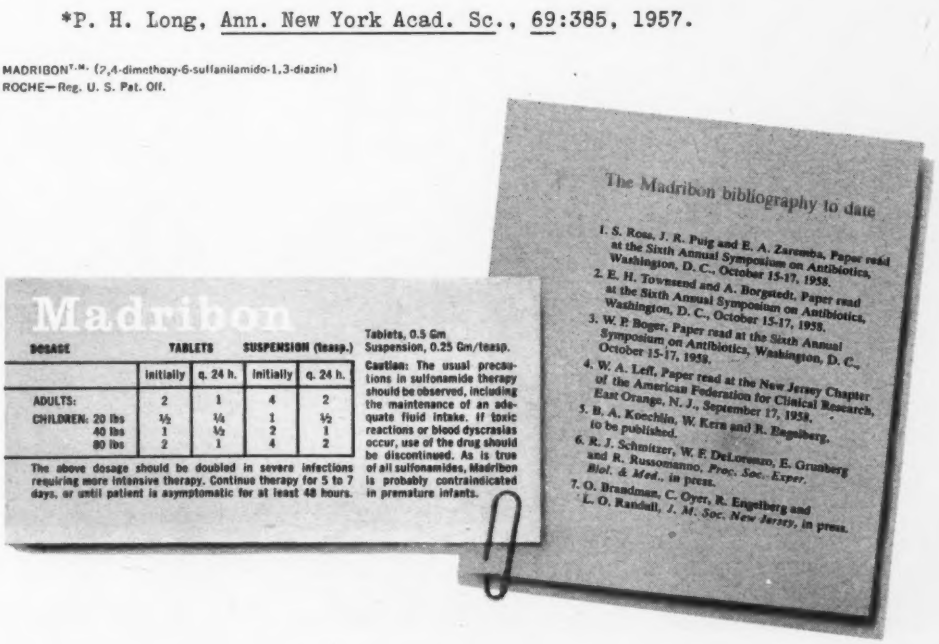
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TABLETS
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q. 24 h.
initially
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CHILDREN: 20 lbs ½ ¼ 1 ½
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The above dosage should be doubled in severe infections requiring more intensive therapy. Continue therapy for 5 to 7 days, or until patient is asymptomatic for at least 48 hours.
Tablets, 0.5 Gm
Suspension, 0.25 Gm/teasp.
Caution: The usual precautions in sulfonamide therapy should be observed, including the maintenance of an adequate fluid intake. If toxic reactions or blood dyscrasias occur, use of the drug should be discontinued. As is true of all sulfonamides, Madribon is probably contraindicated in premature infants.
The Madribon bibliography to date
1. S. Ross, J. R. Puig and E. A. Zaremba, Paper read at the Sixth Annual Symposium on Antibiotics, Washington, D. C., October 15-17, 1958.
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6. R. J. Schmitzer, W. F. DeLorenzo, E. Grunberg and R. Russomanno, Proc. Soc. Exper. Biol. & Med., in press.
7. O. Brandman, C. Oyer, R. Engelberg and L. O. Randall, J. M. Soc. New Jersey, in press.

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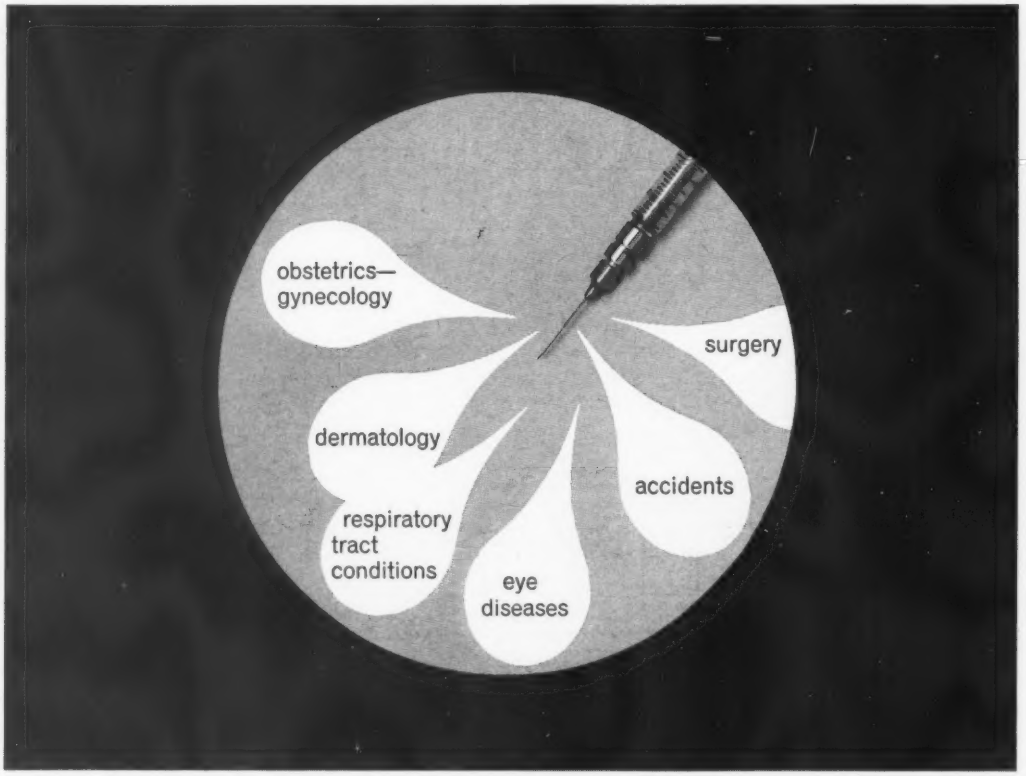

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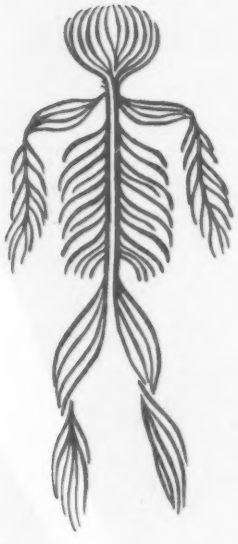

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Many surgeons and researchers concur that blood clotting is only part of the mechanism of hemostasis. Roskam, in his monograph "Arrest of Bleeding"[1] says "... effective spontaneous hemostasis is undoubtedly achieved by the combined action of at least three processes: (1) the formation of a white thrombus at the mouth of vascular wounds; (2) the coagulation of the blood; (3) the contraction of injured arteries and veins."

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A current review concludes: "The data assembled over a four year period bearing on the use of Adrenosem salicylate in the control of hemorrhage from the nose and throat warrant the following conclusions. The routine preoperative use of this drug in tonsil and adenoid surgery reduces bleeding at the time of operation and oozing in the immediate postoperative period. As a result the operating time is reduced and fewer patients require suture of the tonsil fossa to control bleeding."[3]

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*U.S. Pat. 2581850, 2506294

1. Roskam, J.: Arrest of Bleeding, Charles C. Thomas, Springfield, Illinois, 1954.

2. Coyle, J.E.: Analysis of Blood and Vascular Factors in the Prophylaxis of Tonsillo-Adenoidal Hemorrhage, Laryngoscope, 10:1029 (Oct. 1957).

3. Peele, J.C.: Control of Hemorrhage from the Nose and Throat, Med. Times, 10:1228 (Oct. 1958).

Write for literature

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literature available

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1. Clin. Med. 2:1009, 1955.
2. Amer. Pract. & Digest Treat. 9:1447, 1956.
3. Clin. Med. 3:1059, 1956.
4. Unpublished data.

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On the pharmaceutical side of the prescription, Dr. Shaw serves many medical fields. Like his colleagues of the Medical Division at Wyeth, he brings advanced training and specialized knowledge to problems that confront clinicians.

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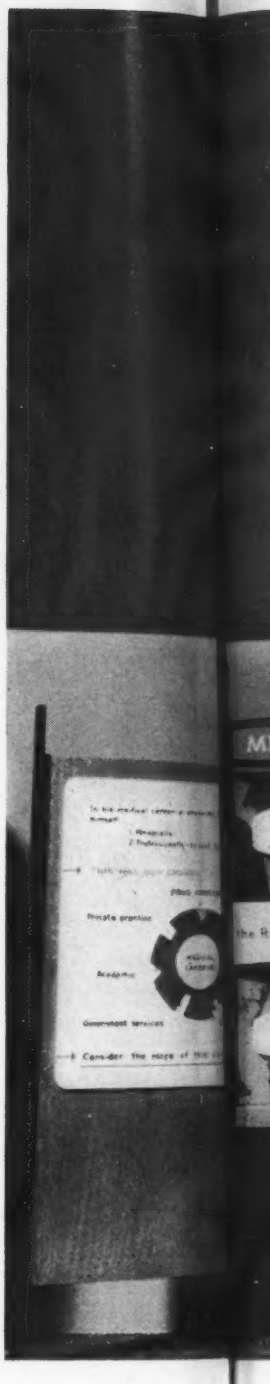

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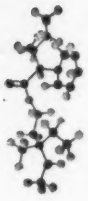
three-way mechanism of action  in one molecule

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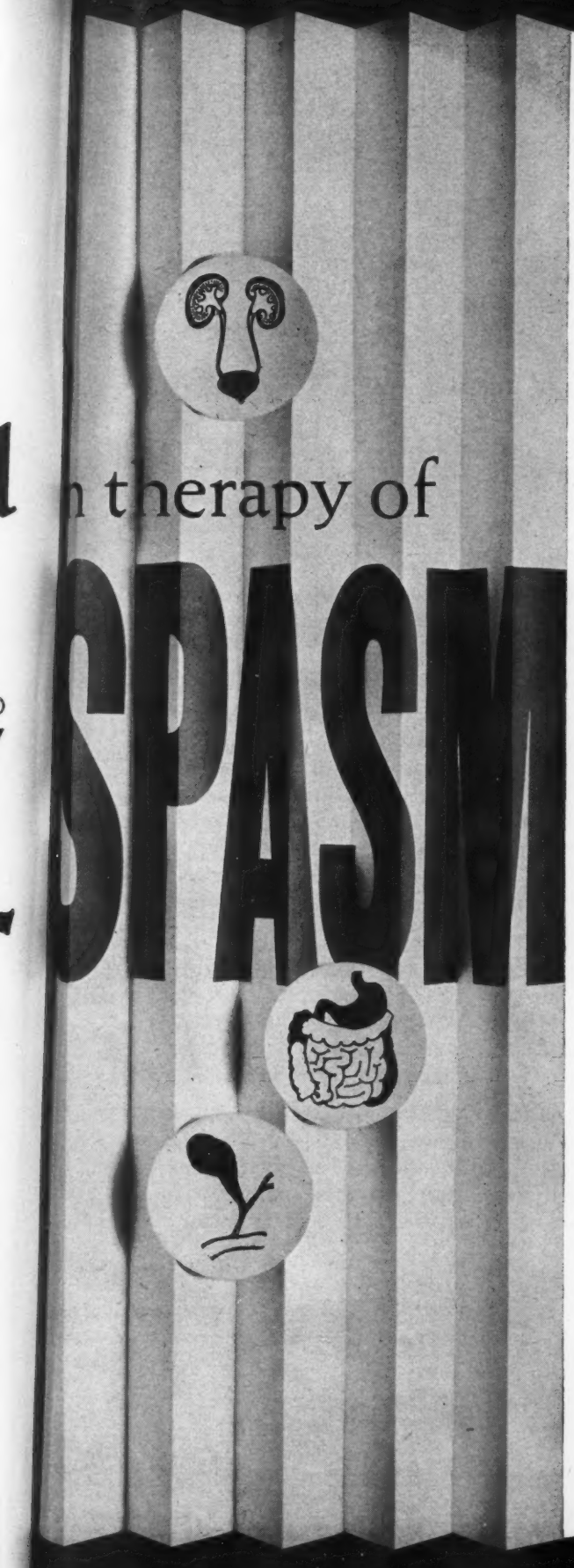

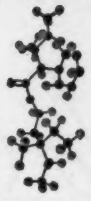

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Peiser[2] states that even extremely strong convulsive abdominal pain and violent vomiting could be eliminated or substantially improved, and no unpleasant side effects or toxic reactions were noted at any time.

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2. Peiser, U.: Med. Klin. 50:1479 (Sept. 2) 1955.
3. Winter, H.: Medizinische, p. 1206 (Aug. 27) 1955.

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3. Stein, I. D.: Circulation 12:833, 1955.

* Complete bibliography furnished on request.

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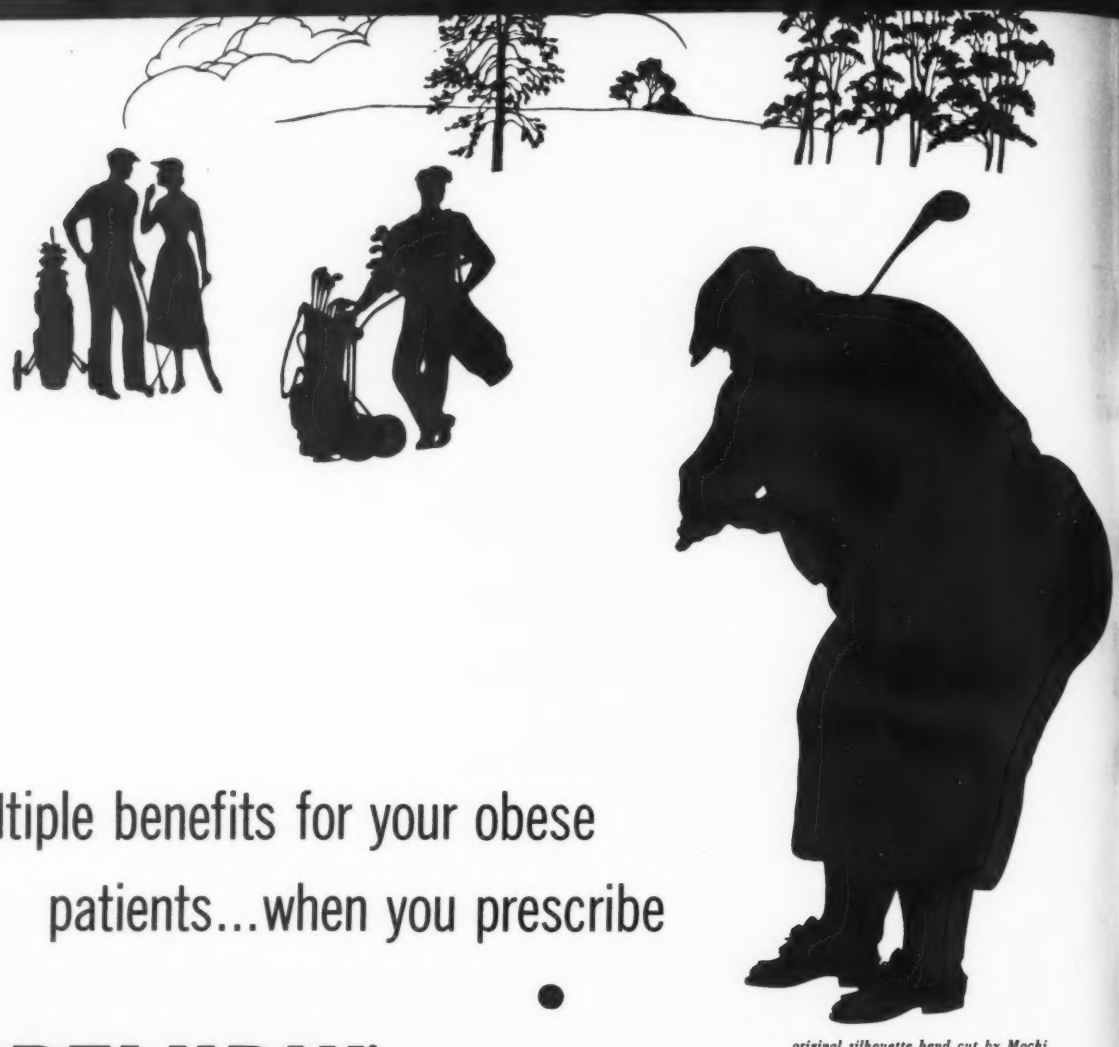
BUTAZOLIDIN® (phenylbutazone Geigy): Red coated tablets of 100 mg. BUTAZOLIDIN® Alka: Capsules containing BUTAZOLIDIN (phenylbutazone Geigy) 100 mg.; aluminum hydroxide 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.



multiple benefits for your obese patients...when you prescribe

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PRELUDIN®

(brand of phenmetrazine hydrochloride)

specifically for weight reduction

PRELUDIN—not an amphetamine, but an oxazine

PRELUDIN does not overstimulate. "...in clinical use the side-effects of nervousness, hyperexcitability, euphoria, and insomnia are much less than with the amphetamine compounds and rarely cause difficulty."[1]

PRELUDIN—potent anorexiant

"Its action as depressant of the appetite, is rapidly manifest and prolonged."[2]

PRELUDIN—provides gratifying weight loss

"The total amount of weight lost by each patient and the average weekly weight loss were five times as great with [PRELUDIN] as with the placebo."[3]

PRELUDIN—kind to the psyche

"While complaints of depression, weakness and fatigue are generally associated with a [severely] restricted caloric regimen, by contrast, patients in this study were cheerful, alert and energetic."[4]

GEIGY
ARDSLEY, N. Y.

(1) Council on Pharmacy and Chemistry, New and Nonofficial Remedies: J.A.M.A. **163**:356 (Feb. 2) 1957. (2) Martel, A.: Canad. M.A.J. **76**:117, 1957. (3) Ressler, C.: J.A.M.A. **165**:135 (Sept. 14) 1957. (4) Natenshon, A. L.: Am. Pract. & Digest Treat. **7**:1456, 1956.

PRELUDIN® (brand of phenmetrazine hydrochloride). Scored, square, pink tablets of 25 mg. Under license from C. H. Boehringer Sohn, Ingelheim.

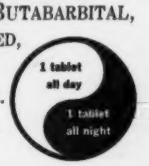
37559

Back at work . . . no angina in 2 months
. . . *on Metamine® Sustained b.i.d.*

In angina pectoris, even after myocardial infarction, an early return to useful activity is now recognized as of special therapeutic value.[1] Ideal protective medication for the active, employed anginal patient is provided by METAMINE® SUSTAINED, b.i.d. (1 tablet on arising and 1 before the evening meal). There is little danger of a skipped dose; the patient "is more faithful" to this simplified regimen. And METAMINE SUSTAINED protects many patients refractory to other cardiac nitrates.[2] Moreover, when you prescribe METAMINE SUSTAINED, q. 12 h., your patient requires less nitroglycerin and remains fully responsive to that vital emergency medication. And METAMINE SUSTAINED (aminotrate phosphate, 10 mg., LEEMING) is virtually free of nitrate side effects (nausea, headache, hypotension).[2]

Supplied: bottles of 50 and 500 sustained-release tablets. Also: METAMINE, METAMINE WITH BUTABARBITAL, METAMINE WITH BUTABARBITAL SUSTAINED, METAMINE SUSTAINED WITH RESERPINE.

Thos. Leeming & Co. Inc. New York 17.

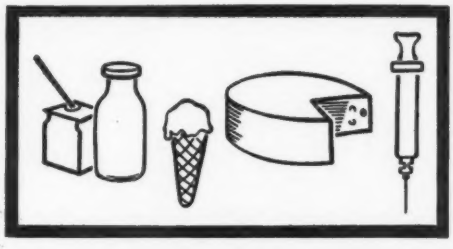


1. Slipyan, A.: J.A.M.A. 168:147, Sept. 13, 1958. 2. Fuller, H. L. and Kassel, L. E.: Antibiotic Med. & Clin. Therapy, 3:322, 1956.

that unidentified allergen may be penicillin

Allergic reactions in patients with no history of penicillin treatment may be caused by penicillin taken in from non-therapeutic sources. Among occult sources of penicillin are:

- milk and other dairy products–
- Roquefort or Bleu cheese–
- vaccines including polio vaccine–
- dermatophytes–



Safer penicillin therapy is now possible because the early administration of NEUTRAPEN can effectively forestall serious reactions. It should be given, in mild as well as in complicated cases, as soon as the diagnosis is made.

Unlike the antihistamines, ACTH or steroids which treat effects, NEUTRAPEN aborts penicillin reactions by counteracting their cause –it destroys the penicillin itself and is effective in about 97% of cases. It acts rapidly: 80% of patients obtain complete clearing of the reaction within 12 to 96 hours after a single injection.†

NEUTRAPEN–800,000 units I.M.–as soon as symptoms appear; may be repeated on the third day if response is not satisfactory. In anaphylactic reactions, epinephrine should be given and other supportive measures instituted immediately, followed by 800,000 units of NEUTRAPEN intravenously and 800,000 units intramuscularly.

contraindications: None.
side effects: Occasionally transient local soreness, erythema, and edema; rarely transitory chills and fever.
supplied: 800,000-unit, single-dose vials of lyophilized penicillinase powder. Stable at room temperature in the dry state.

†Zimmerman, M. C.: Clin. Med. *5*:305, 1958.

NEUTRAPEN®

(NEUTRAlizes PENicillin) (Penicillinase Injectable,* SchenLabs)

the only specific for penicillin reactions

*PATENTS PENDING
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NEW YORK 1, N.Y.

in peptic ulcer

REFRACTORY CASES RESPOND TO NEW DARICON* *tablets*

OXYPHENCYCLIMINE HYDROCHLORIDE

POTENT ANTICHOLINERGIC ACTION

curbs secretion when excessive
normalizes motility when overactive

Activity appears to be restricted to the desired site of action.
Predictable therapeutic response in refractory cases.

Potency and Prolonged Duration of Action · 10 mg. b.i.d. Average Dose
Supplied as: 10 mg. white, scored tablets

References: 1. Finkelstein, Murray: Journal of Pharmacology and Experimental Therapeutics, in press. 2. Winkelstein, Asher: Paper in preparation.

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quick, accurate early pregnancy diagnosis...

new,

3-day oral test

for pregnancy

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anhydrohydroxyprogesterone 50.00 mg.
activated by ethinyl estradiol 0.03 mg. } per tablet

safe . . . . . physiologic . . . . . therapeutic

Pregnancy may now be diagnosed safely, simply and accurately in its earliest weeks by oral administration of PRO-DUOSTERONE® tablets four times daily—with each meal and at bed time—for only three consecutive days. In the nonpregnant patient uterine bleeding usually occurs 3 to 7 days after progesterone therapy.[1] No bleeding occurs when pregnancy exists; on the contrary, gestation is protected.[2] Moreover, in short-term functional amenorrhea regular menstrual cycles are usually restored by oral progestogen.[1]

The speed and precision of this oral diagnostic test are unsurpassed, and "no laboratory equipment, animals, or specimens are needed."[1] The 3-day, oral PRO-DUOSTERONE test for pregnancy is also less costly than biologic methods. Finally, full diagnostic and therapeutic efficiency is assured by the small estrogen component of the PRO-DUOSTERONE formula since "Progesterone has no action whatsoever in the absence of estrogens."[3] Supplied: Bottles of 24 pink tablets.

Roussel Corporation, 155 East 44th Street, New York 17, N.Y.

1. Hayden, G. E.: Am. J. Obs. & Gynec. *76:*271, 1958. 2. New & Nonofficial Drugs: J.A.M.A. *168:*181, 1958. 3. Page, E.W.: GP *9:*53, 1954.

ROUSSEL

you
can prescribe for
more
patients

unsurpassed
therapy...
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great security...

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Triamcinolone LEDERLE

Since its introduction in early 1958, ARISTOCORT has been carefully investigated by many of this country's leading clinicians, and has been used successfully in the treatment of many thousands of patients. From these studies and reports on therapy, several conclusions have now been established:

you can prescribe for more patients . . .

Patients who failed to achieve adequate symptomatic improvement on earlier corticosteroids, or where improvement was not maintained, or who developed serious hormonal reactions may be treated with highly successful results with ARISTOCORT. In addition, those patients who previously could not be treated with corticosteroids because of edema, hypertension, cardiac disease, and overweight are often successfully treated with ARISTOCORT.

you can prescribe for more patients unsurpassed therapy...

ARISTOCORT provides effective anti-rheumatic, anti-inflammatory and anti-allergic control on dosages averaging ½ to ⅔ those of prednisone and prednisolone, ¼ the dosage with hydrocortisone and 1/6 the dosage with cortisone.

you can prescribe for more patients with great security...

With ARISTOCORT there has been freedom from sodium and water retention, absence of potassium depletion, psychic equilibrium is rarely disturbed, a low incidence of peptic ulcer and a low incidence of osteoporosis with compression fracture.

Indications: *Rheumatoid arthritis, bronchial asthma, perennial rhinitis, other respiratory allergies, psoriasis, other inflammatory and allergic dermatoses, disseminated lupus erythematosus, nephrotic syndrome, pulmonary emphysema and fibrosis, palliation in neoplastic diseases such as the leukemias and lymphomas.*

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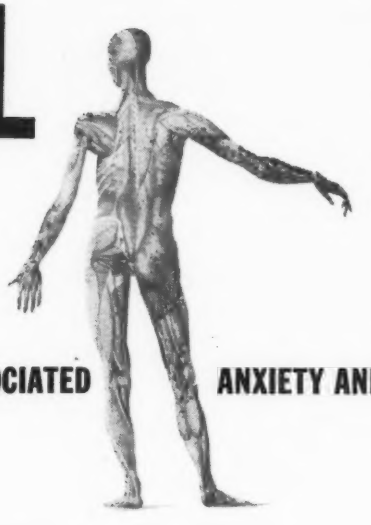
LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, N. Y.

UNEXCELLED FOR RELIEF OF SKELETAL MUSCLE SPASM AND ASSOCIATED ANXIETY AND TENSION



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Simultaneous relief of muscular tension and anxiety with Miltown improves therapeutic results

The dual action of Miltown in neuromuscular disorders "calms patients made chronically irritable by pain, thereby both improving their mental state and increasing their physical comfort . . . It was found to be the best muscle relaxant available to date for use in these conditions."*

Miltown is notably safe. It does not disturb autonomic balance, and does not impair mental efficiency or physical performance.

*Eisenberg, S. H. and Neviaser, J. S.: The use of meprobamate in the treatment of skeletal muscle spasm. Ann. New York Acad. Sc. 67:853, May 9, 1957.

EFFECTIVE IN
LOW BACK PAIN
FIBROSITIS
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MYOSITIS
LEG CRAMPS
OF PREGNANCY
RHEUMATIC CONDITIONS
TENSION HEADACHES
CEREBRAL PALSY

Supplied: *400 mg. scored tablets, 200 mg. sugar-coated tablets.*

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In tetracycline therapy...

KEEP YOUR EYE ON THE ANTIBIOTIC—

(not on an additive)

Keep your eye on...

Tetrex®

TETRACYCLINE PHOSPHATE COMPLEX

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Provides tetracycline with *intrinsic* potency requiring no *extrinsic* potentiator

Wide range of TETREX formulations in convenient dosage forms for every member of the family:

- TETREX Capsules, 250 mg.
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- TETREX ET/S (with Triple Sulfonamides)
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*® of Astra Pharm. Prod. Inc. for lidocaine.

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Tetrex-APC

with BRISTAMIN®

Tetracycline Phosphate Complex with Phenyltoloxamine Citrate and APC

for symptomatic relief and preventive therapy in "flu," "grippe," "virus" and the common cold...

Each TETREX-APC with BRISTAMIN Capsule contains the following comprehensive formulation:

Antibiotic	TETREX (tetracycline phosphate complex) (tetracycline HCl activity)	125 mg.
Analgesic Antipyretic	Aspirin	150 mg.
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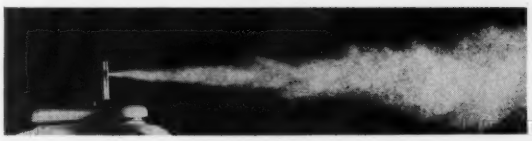
Bottles of 24 and 100 capsules.

Bristol LABORATORIES INC. · SYRACUSE, NEW YORK

in a form to fit

every antibiotic

need  . . .

ACHROMYCIN*

ACHROMYCIN Tetracycline

ACHROMYCIN V Tetracycline with Citric Acid Lederle

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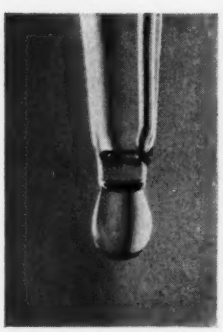
widely used  and

useful...

antibiotic

ACHROMYCIN V: Capsules • Pediatric Drops • Syrup

ACHROMYCIN: Capsules • Ear Solution 0.5% • Intramuscular • Intravenous • Nasal Suspension with Hydrocortisone and Phenylpherine Ointment 3% • Ointment 3% with Hydrocortisone 2% • Ophthalmic Oil Suspension 1% • Ophthalmic Ointment 1% • Ophthalmic Ointment 1% with Hydrocortisone 1.5% • Ophthalmic Powder (Sterilized) • Oral Suspension • Pediatric Drops • PHARYNGETS® TROCHES Soluble Tablets • SPERSOIDS® Dispersible Powder • Surgical Powder (Sterilized) • Syrup • Tablets • Topical Spray • Troches

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IN KABUL VERY FEW OVEREAT

On the contrary, the problem here in Kabul is *not enough* food!

Fighting hunger in places like Kabul is just one task of the UN's 19 Specialized agencies and international organizations. Elsewhere, UN teams combat floods, wage war against disease, fight illiteracy.

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By narrowing this gap in education, health and nutrition between the world's "haves" and "have nots"...as well as providing a forum for political discussion...the UN has become mankind's *last great instrument of peace.*

Be an ambassador of the UN in *your* community. The world's leaders actively support the UN...but *your* good will, understanding and support are the best guarantees of its success. For the informative free pamphlet "The UN in Action," address: United States Committee for the United Nations, Box 1958, Washington 13, D. C.

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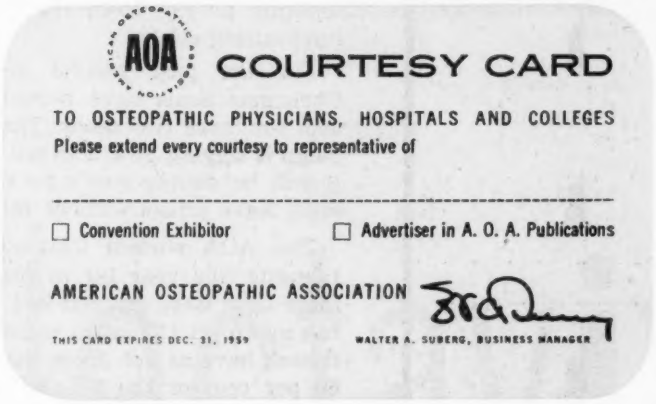
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Please extend every courtesy to representative of
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THIS CARD EXPIRES DEC. 31, 1959
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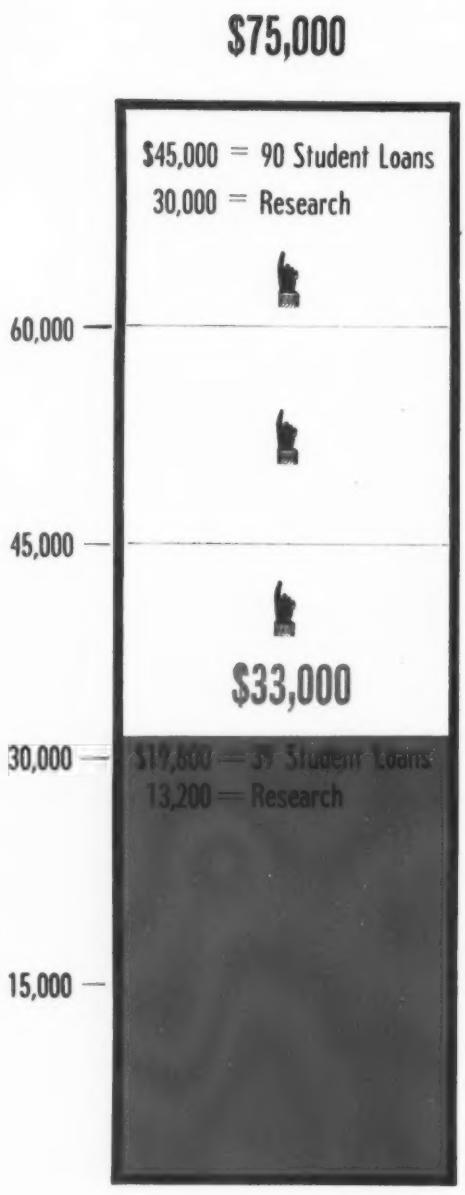
Extend Every Courtesy To Your Detail Men

did you forget about osteopathic Christmas Seals?



Without funds from the Seal Campaign, several students may have to leave their studies in osteopathic colleges. Vital research projects may be discontinued for lack of money. Student loans and research share the seal returns as a separate project from the profession's other fund-raising efforts.

For the past several years, osteopathic Christmas Seals have brought an increasing sum for these two needs. This year, the campaign is lagging. If it does not gain momentum, it will be doubly costly to the students who must leave school without this help.

The AOA student loan committee expects requests this year for at least 150 loans, 55 more than were granted last year. Already, it has approved 113 loans, some to use money it doesn't have as yet. Even with the loan fund's 60 per cent of the $75,000 seal goal, money would be provided for only 90 minimum loans of $500. Some money comes from repayment of earlier loans — but not nearly enough.

The reasons for the greater need:

The rising costs which you share upset many precarious student budgets . . .

The recession of past months wiped out many part-time jobs . . .

Only 15 per cent of today's students have G.I. benefits, compared with 86 per cent of 1951 . . .

The government's loan program has not been put into effect and would benefit only one or two students in each school at best . . .

If you have failed to send your contribution, or to follow through on your packets, please take the time from your busy day to help the future of your profession.

whenever
he
starts
to

CHEW

he's
ready
for

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New vitamin-mineral supplement
in delicious chocolate-like nuggets

There's nothing easier to give
or take–
than Delectavites.
A real treat . . .
the children's favorite . . .
tops with adults, too.

Each nugget contains:

Vitamin A	5,000 Units*
Vitamin D	1,000 Units*
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Vitamin E	2 Units†
Vitamin B-1	2.5 mg.
Vitamin B-2	2.5 mg.
Vitamin B-6	1 mg.
Vitamin B-12 Activity	3 mcg.
Panthenol	5 mg.
Nicotinamide	20 mg.
Folic Acid	0.1 mg.
Biotin	30 mcg.
Rutin	12 mg.
Calcium Carbonate	125 mg.
Boron	0.1 mg.
Cobalt	0.1 mg.
Fluorine	0.1 mg.
Iodine	0.2 mg.
Magnesium	1.0 mg.
Manganese	1.0 mg.
Molybdenum	1.0 mg.
Potassium	2.5 mg.

*U.S.P. units †Int. units

Dose: One Nugget per day
Supplied: Boxes of 30—one month's supply
Boxes of 90—three months' supply or family package.

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The squeeze of modern diuretics eliminates excess fluids — but loss of potassium is unavoidable

It must be replaced.

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(Potassium Gluconate, W-T)

READILY ABSORBED

REMARKABLY WELL TOLERATED

EXTREMELY PALATABLE

AVOIDS UNCERTAINTIES OF ENTERIC-COATED TABLETS AND DANGERS OF INTRAVENOUS POTASSIUM

A tablespoonful of KAON Elixir twice daily (30 cc.) supplies the normal daily potassium requirement (38.4 mEq.)—approximately equal to the elemental potassium in one fifth gallon of orange juice. One teaspoonful (5 cc) = 6.4 mEq. of K in 500 mg. KCl.

WITH ADRENAL CORTICOID THERAPY, KAON IS USEFUL IN PREVENTING POTASSIUM DEPLETION.

References: W. J. Kolff, "Acute Renal Failure: Causes and Treatment," The Medical Clinics of North America, *30*:1052 (July 1955).

Peter Forsham, "Symposium on Adrenal Corticoid Therapy," Metabolism, 7:19 (Jan. 1958).

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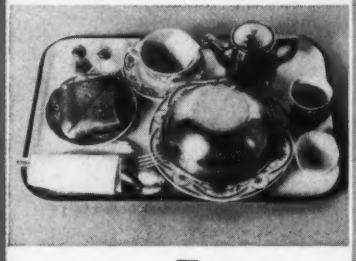

3 to make ready

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Supplied: CAPSULES: in 30's and 100's.
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ready to rebuild
ready to resist

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minimal adverse reactions

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is rare in any human endeavor. When it appears, it may be perceived in various forms—as a work of art, a discovery, an idea, or an achievement of scientific inquiry. The outward form is incidental, but the intrinsic quality is readily recognized....

To partake of the quality of greatness, a therapeutic preparation must first of all achieve a degree of universality...the cumulative experience of thousands of physicians over a period of many years. From this experience, then, is born that unhesitating confidence which may be summed up in the term "drug of choice."

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the flavor of fruit and a broad spectrum antibiotic

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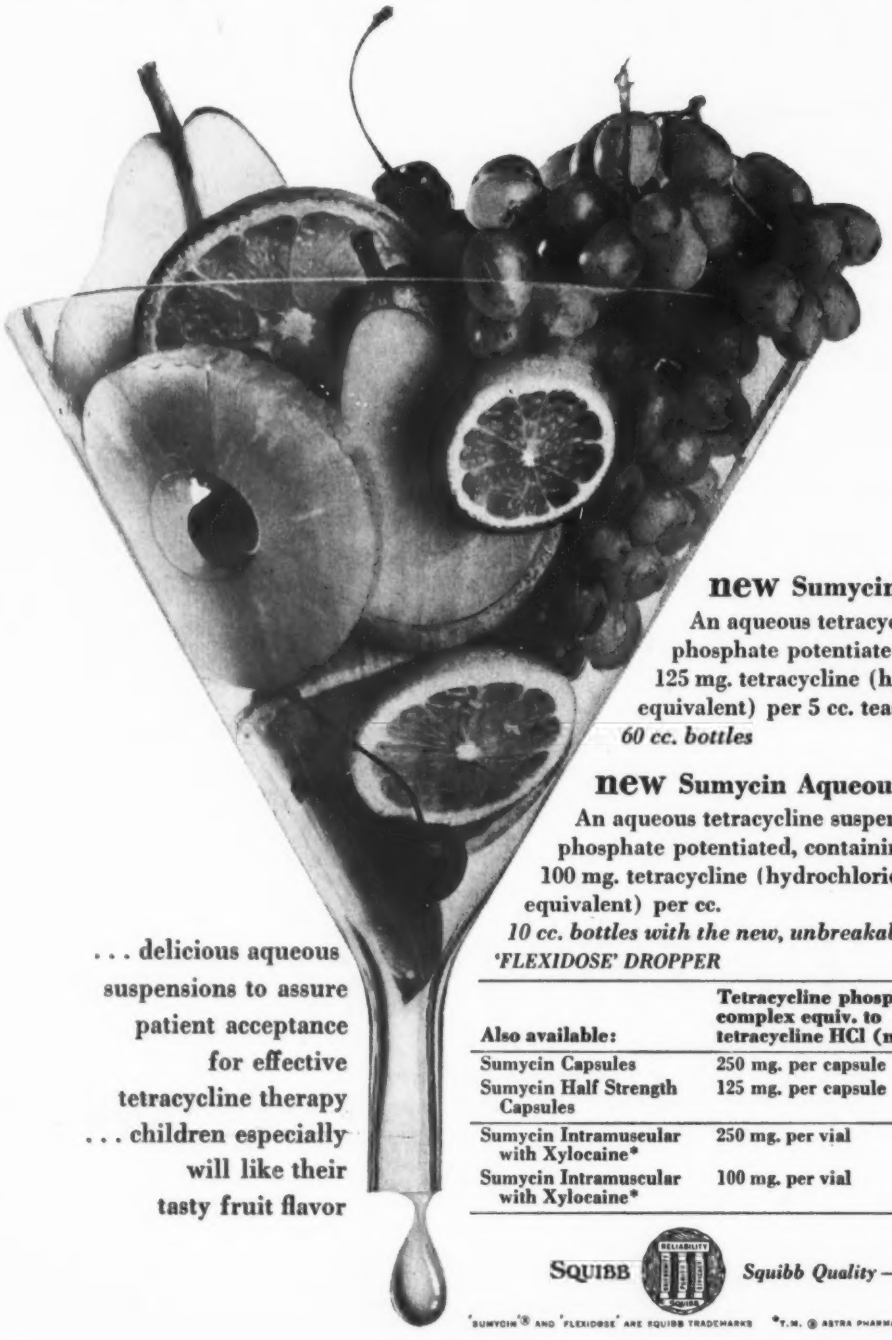
syrup / aqueous drops



new Sumycin Syrup

An aqueous tetracycline suspension, phosphate potentiated, containing 125 mg. tetracycline (hydrochloride equivalent) per 5 cc. teaspoonful.

60 cc. bottles

new Sumycin Aqueous Drops

An aqueous tetracycline suspension, phosphate potentiated, containing 100 mg. tetracycline (hydrochloride equivalent) per cc.

10 cc. bottles with the new, unbreakable 'FLEXIDOSE' DROPPER

. . . delicious aqueous suspensions to assure patient acceptance for effective tetracycline therapy . . . children especially will like their tasty fruit flavor

Also available:	Tetracycline phosphate complex equiv. to tetracycline HCl (mg.)	Packaging:
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Sumycin Half Strength Capsules	125 mg. per capsule	Bottles of 16 and 100
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Sumycin Intramuscular with Xylocaine*	100 mg. per vial	1 dose vials

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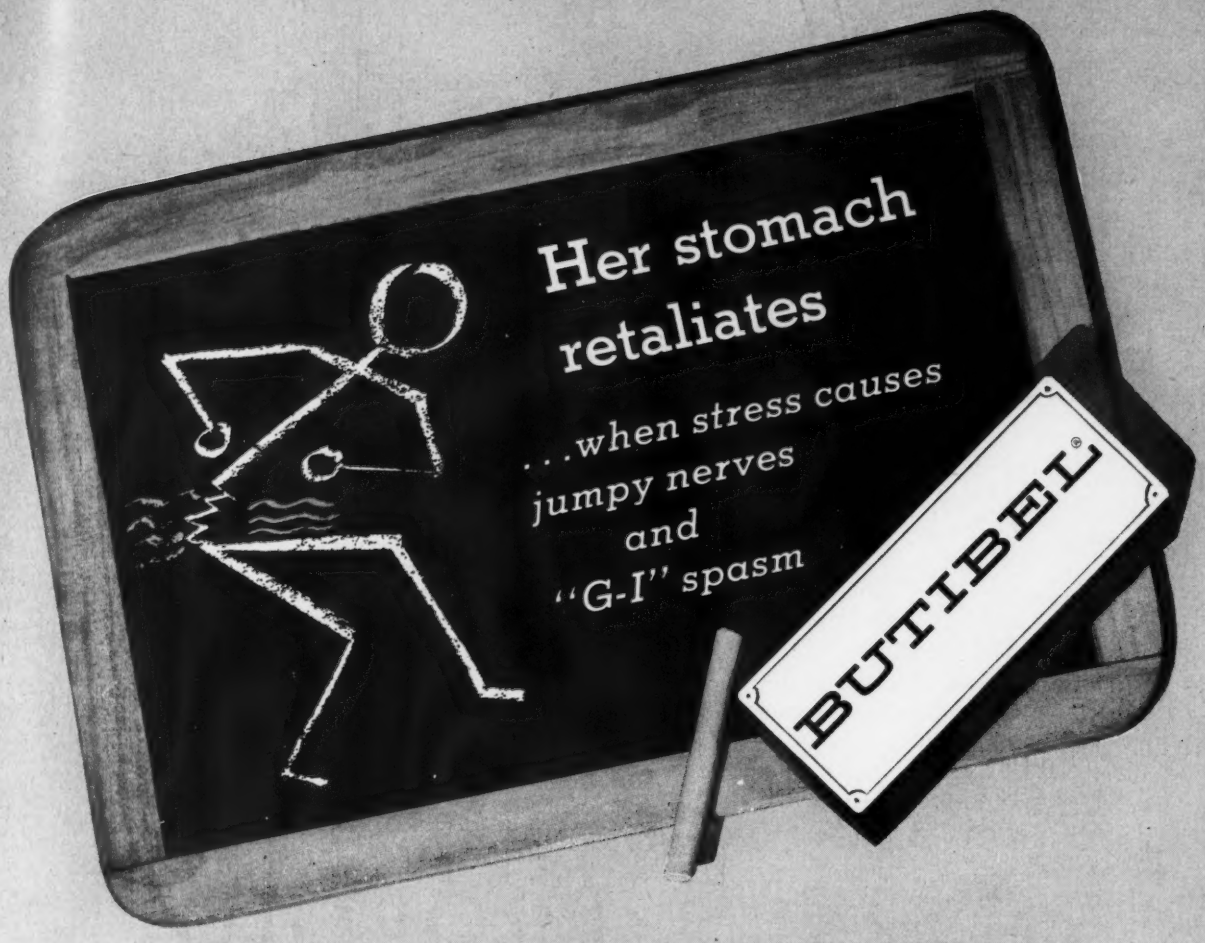

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Butibel contains (per tablet or 5 cc.):

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"daytime sedative" with less risk of accumulation or development of tolerance.

Ext. Belladonna 15 mg. (¼ gr.)

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Philadelphia 32, Pa.

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safe, dependable, economical THYROID PROLOID®

Everything seems normal, but that "I just fall apart in the afternoon" may indicate a common subclinical anemia, or even an early pernicious anemia. For any phase or any type, marginal to manifest, consider one of the new Lederle hematinic formulations, FALVIN, PRONEMIA or PERIHEMIN. All provide the new form of iron, ferrous fumarate (fewer g.i. reactions and fully efficient) plus AUTRINIC Intrinsic Factor Concentrate, producing higher B_{12} serum levels.

Three formulas permit dosage flexibility

Each capsule contains:	FALVIN 2 DAILY	PRONEMIA 1 DAILY	PERIHEMIN 3 DAILY
Vitamin B_{12} with AUTRINIC® Intrinsic Factor Concentrate	1 U.S.P. Oral Unit	2 U.S.P. Oral Units	2/3 U.S.P. Oral Unit
Ferrous Fumarate	271 mg.	350 mg.	168 mg.
Iron (as Fumarate)	90 mg.	115 mg.	55 mg.
Ascorbic Acid (C)	75 mg.	150 mg.	50 mg.
Folic Acid	1 mg.	2 mg.	0.67 mg.

All three contain Autrinic

FALVIN®

Hematinic Lederle

PRONEMIA®

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PERIHEMIN®

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LEDERLE LABORATORIES,
a Division of
AMERICAN CYANAMID COMPANY, Pearl River, New York

TWO NEW PARAFLEX* PRODUCTS

FOR RHEUMATISM AND TRAUMATIC DISORDERS

PARAFON*

THE SPECIFIC MUSCLE RELAXANT PLUS
THE PREFERRED ANALGESIC

FOR ARTHRITIS

PARAFON* with PREDNISOLONE

Effective and well tolerated on the practical dosage of only 6 tablets daily, PARAFON and PARAFON WITH PREDNISOLONE provide benefits that last for up to six hours.

PARAFON relieves pain, stiffness, and disability caused by rheumatism and traumatic disorders; PARAFON WITH PREDNISOLONE compounds this relief with anti-inflammatory action in treatment for arthritis.

supplied: PARAFON: Tablets, scored, pink, bottles of 50. Each tablet contains: PARAFLEX Chlorzoxazone† 125 mg.; and TYLENOL® Acetaminophen 300 mg.
PARAFON WITH PREDNISOLONE: Tablets, scored, buff colored, bottles of 36. Each tablet contains: PARAFLEX Chlorzoxazone 125 mg.; TYLENOL Acetaminophen 300 mg.; and prednisolone 1.0 mg.

precautions: The precautions and contraindications that apply to all steroids should be kept in mind when prescribing PARAFON WITH PREDNISOLONE.

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McNEIL

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PAIN Zactirin®

Ethoheptazine Citrate with Acetylsalicylic Acid, Wyeth

for everyday pain control . . .

for your many patients requiring potent analgesia but not an injected narcotic

Proved by extensive evaluation[1,2,3] in 1998 patients in diverse areas of medicine and surgery, including:

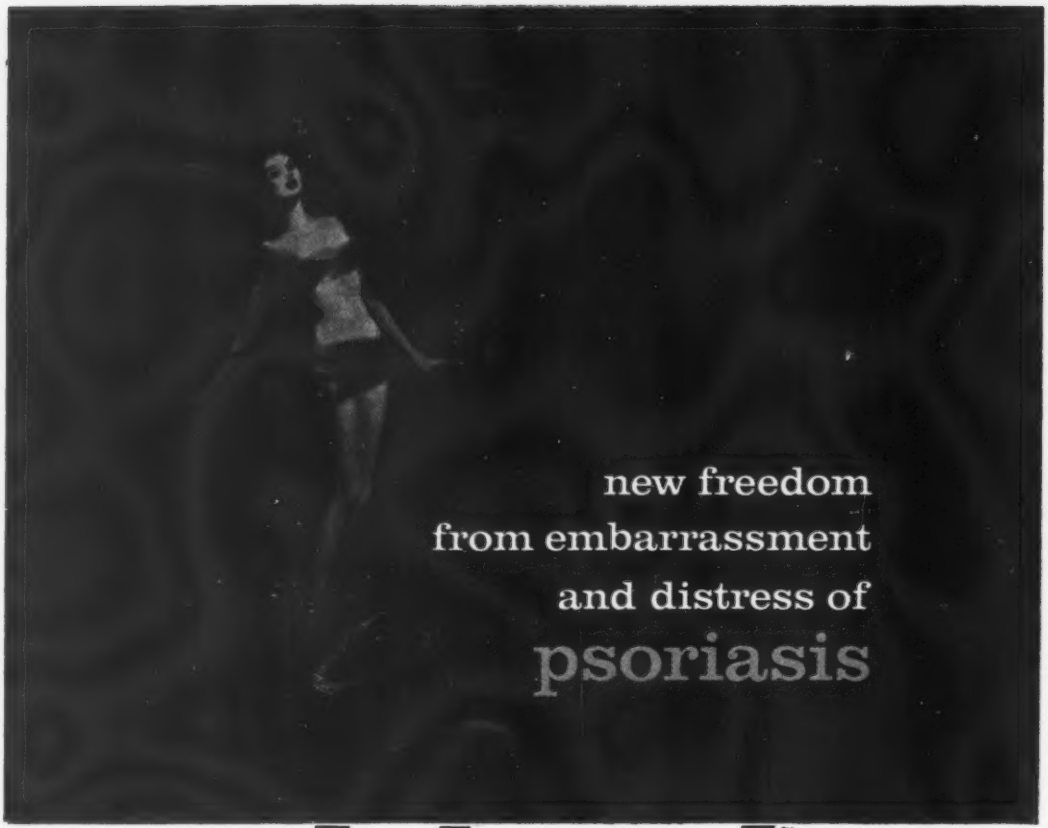
arthritis, bursitis, early metastatic carcinoma, fibrositis, grippe, herpes zoster, ligamental strain, low back pain, menstrual pain, myalgia, myositis, neuritis, pleurisy, postoperative pain, postpartum pain, sciatica, trauma, dental pain

- *exclusive Wyeth non-narcotic analgesic plus anti-inflammatory action*
- *prompt, potent action—as potent as codeine*
- *documented effectiveness and safety[1,2,3]*

Supplied: Tablets, bottles of 48. Each tablet contains 75 mg. of ethoheptazine citrate and 325 mg. (5 grains) of acetylsalicylic acid.

Wyeth®
Philadelphia 1, Pa.

1. Cass, L.J., et al.: J.A.M.A. *166*:1829 (April 12) 1958. 2. Batterman, R.C., et al.: Am. J. M. Sc. *234*:413 (Oct.) 1957. 3. Medical Department, Wyeth: Final Report on the Clinical Evaluation of Zactirin.



alphosyl™ LOTION

A notable advance in topical therapy of psoriasis: Keratin-dispersing action;[1] stimulation of healing.

Successful results ranging to complete clearing obtained[2-5] in patients with: ■ scalp-to-toe psoriasis ■ psoriasis of many years' duration ■ psoriasis involving tender areas.

Treatment-fastness has not occurred

Safety: Avoids potential hazards of other therapies—mercury, arsenic, corticosteroids, x-rays.

A noteworthy advance cosmetically: Nongreasy, nonstaining; vanishes on application to the skin. May be used freely on the scalp.

Application: Rub thoroughly into lesions 2 to 4 times daily. In cases of long duration, initial response may take several weeks. Often, in obstinate cases, hot baths before applications hasten response. *Maintenance:* Apply 2 or 3 times weekly, or daily if necessary.

Formula: Allantoin 2% and special coal tar extract 5% in a lotion base.

Supplied: Bottles of 8 fl. oz.

(1) Flesch, P.: Reported Conf. N. Y. Academy Sciences May 9, 1958 (In Press). (2) Bielberg, J., and Saltzman, J. A.: Clin. Med. 5:485 (Apr.) 1958. (3) Bielberg, J.: Reported Conf. N. Y. Academy Sciences May 9, 1958 (In Press). (4) Clyman, S. G.: Reported Conf. N. Y. Academy Sciences May 9, 1958 (In Press). (5) Samitz, M. H.: Reported Conf. N. Y. Academy Sciences May 9, 1958 (In Press).

REED & CARNRICK / *Jersey City 6, N. J.*

NOW–*the*

first-choice

antibiotic

for any

staph

infection

KANTREX

Kanamycin Sulfate

Clinically proven bactericidal antibiotic providing:

- *Bactericidal* – not merely bacteriostatic – action
- Wide antimicrobial range…even against many heretofore resistant organisms
- Rapid effect
- High serum levels

–"leaves the least for the host to do"

Bristol

For rapid bactericidal action in any staph infection...

KANTREX®

Kanamycin Sulfate

"The rapidity with which bacteria are killed by this agent (KANTREX) is reflected by the promptness of the clinical response."[11]

SUMMARY OF CLINICAL RESULTS WITH INTRAMUSCULAR KANTREX —

DISEASE	NUMBER OF PATIENTS	GOOD RESULTS	FAIR RESULTS	INDETERMINATE	NO IMPROVEMENT
Respiratory tract disease	77	55	6	4	12
Urinary tract disease	204	148	—	5	51
Soft tissue infections	177	153	8	4	15
Septicemia	38	18	9	1	9
Osteomyelitis	13	9	—	3	4
Bacterial endocarditis	8	4	2	—	2
Miscellaneous diseases	42	30	4	3	5

— IN 559 CASES REPORTED BY 31 INVESTIGATORS

Indications: Indications for KANTREX include infections due to kanamycin-susceptible organisms, even many of those resistant to other antibiotics:

Respiratory tract infections: Tracheitis, bronchitis, pneumonitis, bronchopneumonia, lung abscess, pleuritis, empyema, and bronchiectasis.

Urinary tract infections: Acute and chronic pyelonephritis, and cystitis.

Soft tissue infections: Wound infections, abscesses, cellulitis.

Blood stream infections.

Osteomyelitis.

Dosage: Adults: Average daily intramuscular dose 1 to 2 Gm. in 2 to 4 equally divided doses.

Children: Average daily intramuscular dose 15 to 30 mg. per Kg. in 2 to 4 equally divided doses.

Precaution:

Skin eruptions and signs of renal irritation (which disappeared on cessation of therapy) have been occasionally noted. In a few cases, signs of eighth nerve dysfunction (tinnitus, vertigo, loss of hearing) have been observed: (1) in patients with pre-existing renal insufficiency, (2) in patients receiving 18 Gm. or more of KANTREX, and (3) in patients over 45 years of age. Animal studies indicate that KANTREX has less auditory toxic potential than dihydrostreptomycin.

Supply: Available in rubber-capped vials as a ready-to-use sterile aqueous solution in two concentrations (stable at room temperature indefinitely):

KANTREX (kanamycin sulfate) 0.5 Gm. in 2 ml. volume.

KANTREX (kanamycin sulfate) 1.0 Gm. in 3 ml. volume.

Kantrex Sensitivity Discs and comprehensive literature available on request.

References: **1.** Bunn, P., Baltch, A., and Krajnyak, O., State University of New York Upstate Medical School, Syracuse, N.Y.: Annals N.Y. Acad. Sci. In press. **2.** Cronk, G. A., and Naumann, D. E., Dept. of Health and Preventive Medicine, Syracuse University, Syracuse, N. Y. *Ibid.* **3.** Davies, F. G., Marcy State Hospital, Marcy, N.Y. *Ibid.* **4.** Dube, A. H., Edward S. Van Duyn Memorial County Hospital, Onondaga, N.Y. *Ibid.* **5.** Finegold, S. M., Winfield, M. E., Aronsohn, R. B., Hewitt, W. L., and Guse, L. B., University of California Medical School, Los Angeles, Calif. *Ibid.* **6.** Greey, P. H., and Wightman, K. J. R., University of Toronto, Toronto, Can. *Ibid.* **7.** Herrold, R. D., and Karabatsos, N., College of Medicine, University of Illinois, Chicago. *Ibid.* **8.** High, R. H., Sarria, A., and Huang, N. N., Temple University School of Medicine, Philadelphia. *Ibid.* **9.** Ichikawa, T., Medical Faculty, University of Tokyo, Tokyo, Japan. *Ibid.* **10.** Katz, S., District of Columbia General Hospital, Washington, D.C.: Personal communication. **11.** Rutenburg, A. M., Koota, G. M., and Schweinburg, F. B., Harvard Medical School, Boston: Annals N.Y. Acad. Sci. In press. **12.** Ruiz Sanchez, F., and Ruiz Sanchez, A., University of Guadalajara, Jalisco, Mexico. *Ibid.* **13.** White, A., and Knight, V., School of Medicine, Vanderbilt University, Nashville, Tenn. *Ibid.* **14.** Yow, E. M., and Monson, O. T., Baylor University College of Medicine, Houston, Tex. *Ibid.* **15.** Yow, M. E., and Womack, G. K., Baylor University College of Medicine, Houston, Tex. *Ibid.*

Bristol LABORATORIES INC.
SYRACUSE, NEW YORK

IN URTICARIA AND PRURITUS

VISTARIL*

HYDROXYZINE PAMOATE

A PSYCHOTHERAPEUTIC ANTIHISTAMINE

(as designated by A.M.A. Council on Drugs, 1958)

SPECIFIC ANTIHISTAMINIC ACTION in the treatment of a variety of skin disorders commonly seen in your practice.

"While some of the tranquilizers are only partially effective as far as antiallergic activities are concerned . . . [hydroxyzine] has been found, by comparison, to be the most potent thus far . . ."[1]

"The most striking results were seen in those patients with chronic urticaria of undetermined etiology."[2]

PLUS

PSYCHOTHERAPEUTIC POTENCY for the relief of anxiety and tension.

The psychotherapeutic effectiveness of hydroxyzine (VISTARIL) was confirmed in a series of 479 patients suffering from a wide variety of dermatoses, including atopic dermatitis, neurodermatitis, psoriasis, lichen planus, nummular eczema, dyshidrosis, pruritus ani and vulvae, and rosacea. "Adverse reactions were minimal."[2]

RECOMMENDED ORAL DOSAGE: *50 mg. q.i.d. initially; adjust according to individual response.*

VISTARIL Capsules: *25 mg., 50 mg., 100 mg.*

VISTARIL Parenteral Solution: *10 cc. vials and 2 cc. Steraject® Cartridges. Each cc. contains 25 mg. hydroxyzine (as the HCl).*

More than a tranquilizer

REFERENCES:

1. Eisenberg, B. C.: Clinical Medicine *5*:897-904 (July) 1958.
2. Feinberg, A. R., et al.: J. Allergy *29*:358 (July) 1958.
3. Robinson, H. M., et al.: So. Med. J. *50*:1282 (Oct.) 1957.

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no asthma symptoms—Chronic asthmatic patients stay symptom-free with Tedral...the safe, effective, low-cost antiasthmatic designed for prolonged therapy. No single drug can equal Tedral in protecting against bronchial constriction, mucous congestion, and apprehension 'round-the-clock.

Dosage: 1 or 2 Tedral tablets q.4.h. plus 1 or 2 Tedral Enteric Coated (delayed action) with the regular dosage at bedtime.

TEDRAL®

the dependable antiasthmatic

WARNER CHILCOTT

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in acute dermatoses

as well as subacute and chronic skin diseases

"prompt remissions"[1]

NEW TARCORTIN LOTION
excellent for lesions of head and hands
supplied—plastic squeeze bottles ½ ounce

"...when the tar-steroid cream TARCORTIN was prescribed for patients presenting very acute episodes of atopic dermatitis, contact dermatitis, psoriasis, chronic infectious eczematoid dermatitis, and other eczematous dermatoses...we were able to achieve prompt remissions..."[1]

1. Welsh, A. L., and Eds, M.: J.A.M.A. 160:164, 1956.

Additional Clinical Publications on Tarcortin:

Clyman, S. G.: Postgrad. Med. 21:309, 1957 • Sielberg, J.: J. M. Soc. New Jersey 53:37, 1956 • Abrams, B. P., and Shaw, C.: Clin. Med. 3:839, 1956 • Sielberg, J.: Am. Practitioner 8:1404, 1957

TARCORTIN®

Cream Hydrocortisone 0.5% and Special Coal Tar Extract 5% (TARBONIS®) in a greaseless, stainless vanishing cream base. In tubes of 7 gm. and 1 oz.

ALSO AVAILABLE:
FOR DRY SCALY ECZEMAS, AND WHEN INFECTION IS PRESENT OR ANTICIPATED

NEO-TARCORTIN®

Ointment Hydrocortisone 0.5%, Neomycin (as Sulphate) 0.35% and Special Coal Tar Extract 5%. In tubes of 7 gm. and 1 oz.

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REED & CARNRICK
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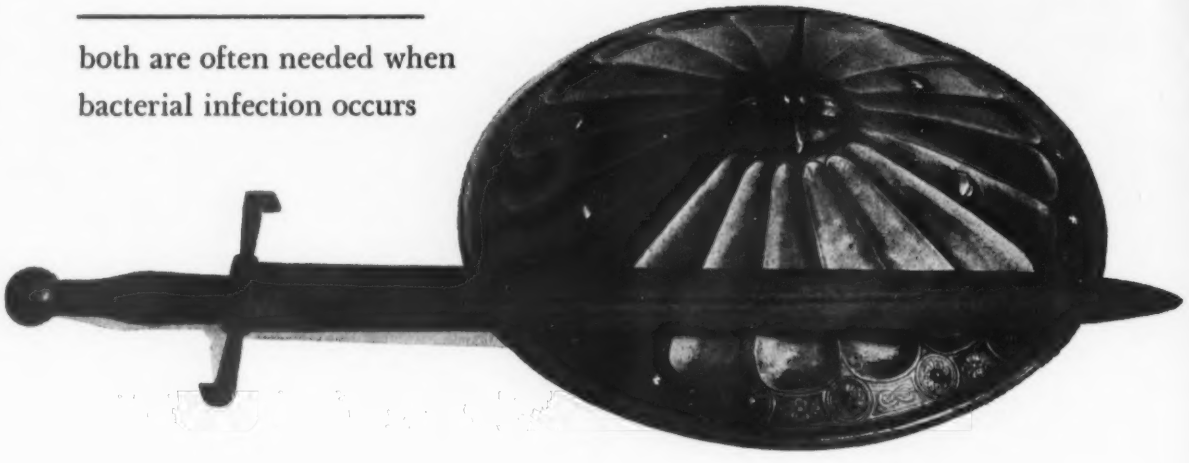
▪ prompt, aggressive
antibiotic action
▪ a reliable defense against
monilial complications

---

both are often needed when
bacterial infection occurs



for a direct strike at infection

Mysteclin-V contains tetracycline phosphate complex

It provides a direct strike at all tetracycline-susceptible organisms (most pathogenic bacteria, certain rickettsias, certain large viruses, and Endamoeba histolytica).

It provides the new chemical form of the world's most widely prescribed broad spectrum antibiotic.

It provides unsurpassed initial blood levels – higher and faster than older forms of tetracycline – for the most rapid transport of the antibiotic to the site of infection.

for protection against monilial complications

Mysteclin-V contains Mycostatin

It provides the antifungal antibiotic, first tested and clinically confirmed by Squibb, with specific action against Candida (Monilia) albicans.

It acts to prevent the monilial overgrowth which frequently occurs whenever tetracycline or any other broad spectrum antibiotic is used.

It protects your patient against antibiotic-induced intestinal moniliasis and its complications, including vaginal and anogenital moniliasis, even potentially fatal systemic moniliasis.

MYSTECLIN-V

Squibb Tetracycline Phosphate Complex (Sumycin) and Nystatin (Mycostatin)

Capsules *(250 mg./250,000 u.), bottles of 16 and 100.* Half-strength Capsules *(125 mg./125,000 u.), bottles of 16 and 100.* Suspension *(125 mg./125,000 u. per 5 cc.) 60 cc. bottles.* Pediatric Drops *(100 mg./100,000 u. per cc.). 10 cc. dropper bottles.*

SQUIBB *Squibb Quality — the Priceless Ingredient*

'MYSTECLIN'®, 'SUMYCIN'®, AND 'MYCOSTATIN'® ARE SQUIBB TRADEMARKS

for fever and pain / in infants and children

when your little patient

is burning with fever.....

Tempra®

Acetaminophen, Mead Johnson

syrup • drops

brings relief quickly...conveniently

- **safe**
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Symbol of service in medicine

TE601

even when the causative organism may be a "persistent staph"

Cosa-Signemycin*

GLUCOSAMINE-POTENTIATED TETRACYCLINE WITH TRIACETYLOLEANDOMYCIN

increases the certainty of safe, rapid response

AS PROVED BY extensive clinical trials—an over-all success rate of more than 94% was achieved in a total of 3,280 cases.†

AS PROVED BY success in mixed infections—more than 95% of 1,000 acute and chronic respiratory tract infections were successfully treated; a 99% cure rate was achieved in mixed bacterial pneumonias.†

AS PROVED BY effectiveness in "problem infections"—a response rate better than 96% was recorded in a group of 221 gastrointestinal infections including chronic intestinal amebiasis; 91% of 465 urogenital infections were successfully controlled.†

AS PROVED BY excellent safety record—extremely well tolerated; discontinuance of medication was necessary in only 11 of 3,820 patients.†

A significant number of the above cases had not responded to other antibiotics.

Cosa-Signemycin is particularly valuable in home and office, where susceptibility testing is difficult or impractical.

SUPPLY: *Capsules* (green and white), 250 mg. and 125 mg.
New Oral Suspension (raspberry-flavored), 2 oz. bottle, 125 mg. per teaspoonful (5 cc.).
New Pediatric Drops (raspberry-flavored), 10cc. bottle, 5 mg. per drop, plastic calibrated dropper.

Average dosage: For adults, 1-2 Gm. daily in divided doses; proportionately less for children, depending on age, weight, and severity of infection.

†Literature and bibliography available on request.

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Pfizer *Science for the world's well-being*

PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y.*

If you were to examine these patients

could you detect the asthmatic on Medrol*?

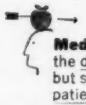
Probably not. Not without a history.

First, because he's more than likely symptom-free.

Second, because he shows none of the disturbing changes in appearance, behavior or metabolism sometimes associated with corticotherapy.

Even your practiced clinical eye would find it difficult to spot someone else's Medrol patient.

But in your own patients, you could see the advantages of Medrol right away. Why not try it?



Medrol hits the disease, but spares the patient

Upjohn The Upjohn Company, Kalamazoo, Michigan

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for the
stress component
in

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STRESSCAPS*

Stress Formula Vitamins Lederle

Rheumatologists now look for nutritive failure among patients with arthritis.[1] Vitamin deficiencies and increased need for vitamins in rheumatoid arthritis justify polyvalent vitamin supplementation.[2]

STRESSCAPS restore water-soluble vitamin losses and insure a more desirable response to primary therapy.

each capsule contains:

Thiamine Mononitrate (B_1)	10 mg.
Riboflavin (B_2)	10 mg.
Niacinamide	100 mg.
Ascorbic Acid (C)	300 mg.
Pyridoxine HCl (B_6)	2 mg.
Vitamin B_{12}	4 mcgm.
Folic Acid	1.5 mg.
Calcium Pantothenate	20 mg.
Vitamin K (Menadione)	2 mg.

average dose: 1-2 capsules daily

1. Spies, T. D.: J.A.M.A. 167:675 (June 7) 1958.
2. Robinson, W. D.: Report to A.M.A. Council on Foods and Nutrition, J.A.M.A. 166:253 (Jan. 18) 1958.

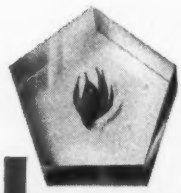
*Reg. U.S. Pat. Off.

Lederle LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Until the discovery of DECADRON* by MERCK SHARP & DOHME, when your diabetic patients were also in need of corticosteroid treatment, you were often faced with a difficult therapeutic dilemma. Diabetes mellitus was a recognized contraindication to the use of corticosteroids, since they not only aggravated the existing diabetic symptoms, but often precipitated latent diabetes.

NOW EVEN many diabetic patients may have THE FULL BENEFITS OF CORTICOSTEROID THERAPY

DECADRON—the new and most potent of all anti-inflammatory corticosteroids—is remarkable for its **virtual absence of diabetogenic effect** in therapeutic doses.



Decadron*

DEXAMETHASONE

to treat more patients more effectively

In clinical trials with some 1,500 patients glycosuria was noted in only two, transitory glycosuria in another two, and flattening of the glucose tolerance curve in one. There were no instances of aggravation of existing diabetes, no increase in insulin requirements. Patients whose diabetes was severely aggravated on prednisolone showed good tolerance when transferred to DECADRON.

MORE patients can be treated with DECADRON than with other corticosteroids, because in addition to being practically free of diabetogenic activity, therapy with DECADRON is also practically free of sodium retention, potassium depletion, hypertension, edema and psychic disturbances. Cushingoid effects are fewer and milder. DECADRON has not caused any new or "peculiar" reactions, and has produced neither euphoria nor depression, but helps restore a "natural" sense of well-being.

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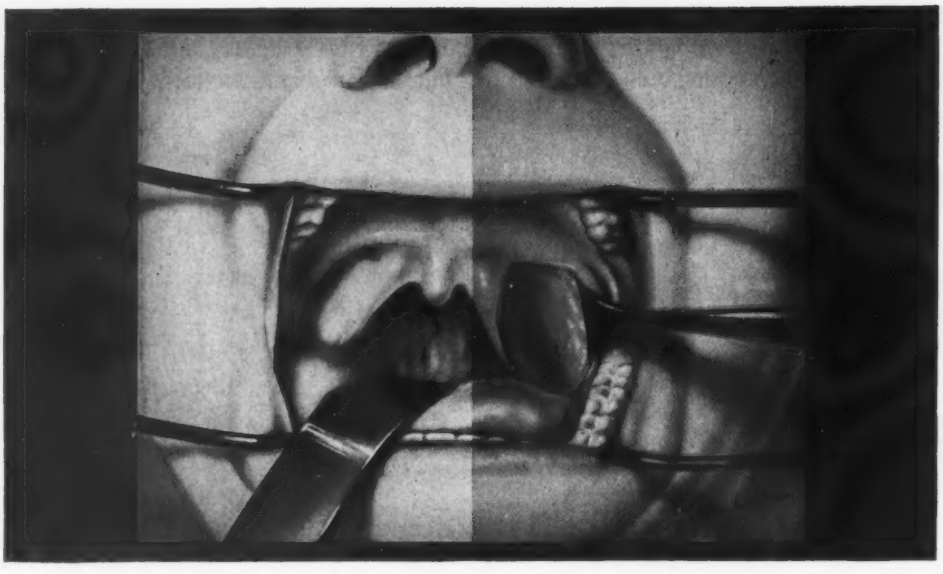

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"A BACTERIOSTATIC BATH"*

Controls Oropharyngeal Infections and Relieves Discomfort Quickly

Chewing ORABIOTIC releases a soothing flow of saliva laden with two locally potent and complementary antibiotics—*neomycin and gramicidin*—plus a topical analgesic, *propesin*, which is more effective than benzocaine.

NON-SENSITIZING AND NON-IRRITATING.

ORABIOTIC®

NEW ANTIBIOTIC-ANALGESIC CHEWING GUM TROCHES

for topical treatment or prophylaxis

For the relief of postoperative discomfort and the prevention of secondary hemorrhage following tonsillectomy. Valuable also as a topical adjunct to systemic treatment of bacterial infections of the mouth and throat.

EACH TROCHE CONTAINS: neomycin 3.5 mg., gramicidin 0.25 mg., and propesin 2.0 mg. IN PACKAGES OF 10 AND 20. One troche chewed for 10-15 min. q. 4h.

WHITE LABORATORIES, INC., KENILWORTH, N. J.

**Granberry, C., and Beatrous, W.P.: The Effect of an Antibiotic Chewing Troche on Post-Tonsillectomy Morbidity, E.E.N.T. Monthly (May) 1957.*

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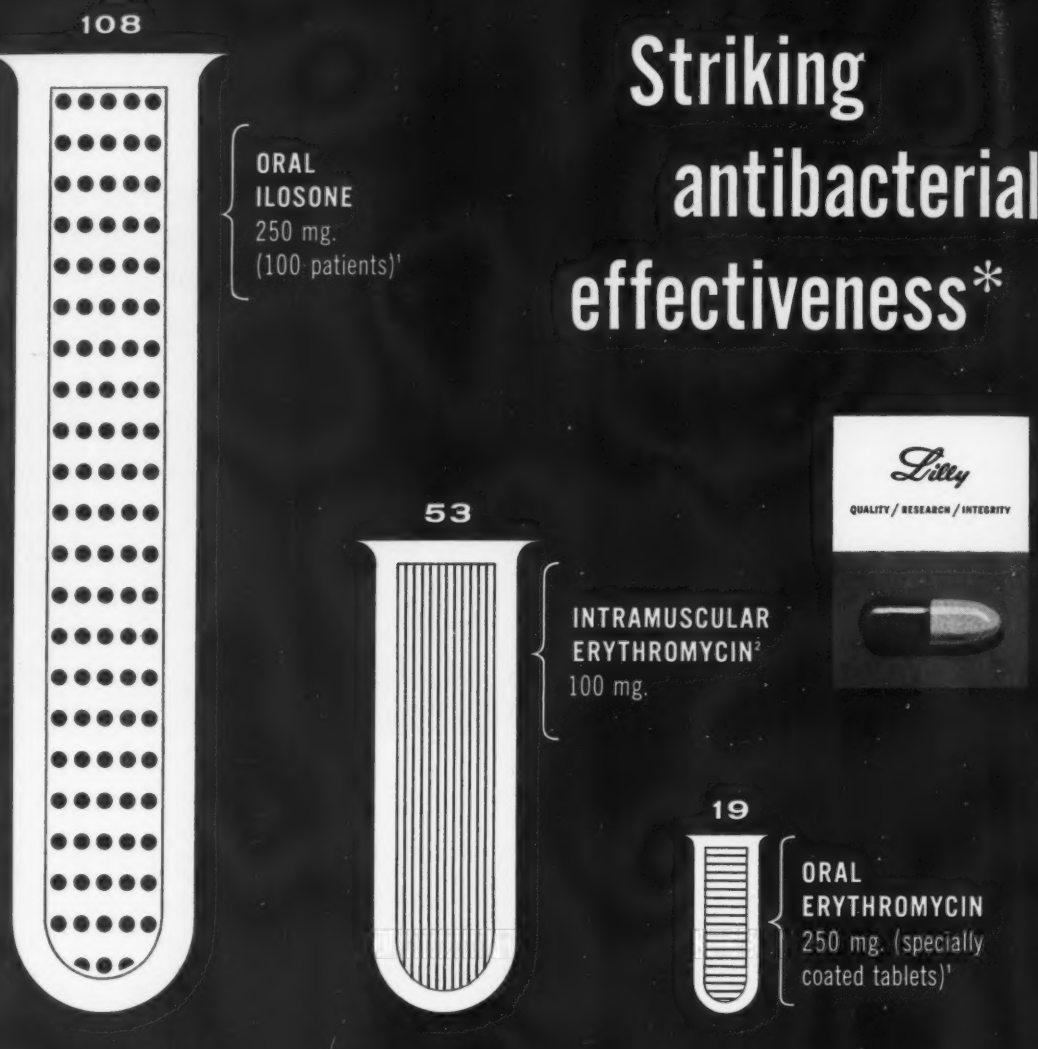

ILOSONE™ *assures a more decisive clinical response in almost every common bacterial infection*

(erythromycin ester, Lilly) as the propionate

Ilosone provides more potent, longer-lasting therapeutic levels in the serum within minutes after administration. A fast, decisive response is assured in almost every common bacterial infection.

Usual adult dosage is one or two 250-mg. Pulvules® every six hours, according to severity of infection. For optimum effect, administer on an empty stomach. (A 125-mg. pediatric Pulvule is also available.) In bottles of 24.

*Shown by *how many times* the serum can be diluted two hours after administration of the antibiotic and still inhibit identical pathogenic strains of bacteria. This is the *Tube Dilution Technique*, which is regarded by leading authorities as the most meaningful method of comparing different antibiotics. It shows not merely the level of antibiotic in the blood but the actual antibacterial effectiveness of that level.

1. Griffith, R. S., *et al.*: Antibiotic Med. & Clin. Therapy, *5*:609 (October), 1958. Note: Peak levels with the oral erythromycin tablets (thirty-three dilutions) were not observed until four hours after administration. 2. Data from Griffith, R. S.: Antibiotics Annual, p. 269, 1954-1955.

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932521

Conventions and meetings

Announcements

American Osteopathic Association, Sixty-Third Annual Convention, Palmer House, Chicago, July 13-17. Program Chairman, William Baldwin, Jr., 1901 Walnut St., Philadelphia 3.

American College of Osteopathic Obstetricians and Gynecologists, annual meeting, Detroit, February 8-12. Program Co-Chairmen, Kenneth A. Scott, 824 Broad St., Providence 7, R.I., and Robert Magrill, 5255 S. Compton Ave., Los Angeles 11. Secretary, Arthur A. Speir, Box 66, Merrill, Mich.

American College of Osteopathic Pediatricians, annual meeting, Detroit, February 8-12. Program Co-Chairmen, Kenneth A. Scott, 824 Broad St., Providence 7, R.I., and Robert Magrill, 5255 S. Compton Ave., Los Angeles 11. Secretary, Myron D. Jones, Osteopathic Hospital of Kansas City, 926 E. 11th St., Kansas City 6, Mo.

American Osteopathic College of Proctology, annual meeting, Muehlebach Hotel, Kansas City, Mo., April 15-17. Program Chairman, Joseph S. Lefler, 820 Mentor Ave., Painesville, Ohio. Secretary, Eugene W. Egle, Lackland Clinic, 2335 Brown Rd., St. Louis 14.

Arizona, annual meeting, Valley Ho Hotel, Scottsdale, May 1-3. Executive Secretary, Russell Peterson, 2747 E. McDowell Rd., Phoenix 22.

California, annual meeting, Hotel del Coronado, Coronado, May 9-13. Program Chairman, Elden B. Shields, 2640 Pasadena Ave., Los Angeles 31. Executive Secretary, Mr. Thomas C. Schumacher, 4775 Santa Monica Blvd., Los Angeles 29.

Canada, annual meeting, Alpine Inn, St. Marguerite Station, Quebec, October 8-10. Program Chairman, E. S. Detwiler, 444 Waterloo St., London, Ont. Secretary, Miss Joyce S. Currie, 609 Medical Arts Bldg., Montreal 25.

Eastern Osteopathic Association, annual meeting, Hilton Statler Hotel, New York City, April 4-5. Program Chairman, Chester D. Losee, 212 Prospect St., Westfield, N.J. Secretary, Frank B. Tompkins, 309 Meyerhoff Bldg., Baltimore 1.

Illinois, annual meeting, Pere Marquette Hotel, Peoria, April 24-26. Executive Secretary, Mr. D. O. Durkin, Room 521, 53 W. Jackson Blvd., Chicago 4.

Indiana, annual meeting, Van Orman Hotel, Ft. Wayne, May 17-19. Program Co-Chairmen, Lee W. Yoder, 192 N. Cass St., Wabash, and John D. Hall, 125 E. William St., Kendallville. Secretary, Arabelle Baker Wolf, 4840 N. Michigan Rd., Indianapolis 8.

Iowa, annual meeting, Hotel Savery, Des Moines, May 25-26. Program Chairman, Alan M. Nelson, 331 Main St., Belmond. Secretary, Mr. Herman W. Walter, 200 Walnut Bldg., Des Moines 9.

Kentucky, annual meeting, Brown Hotel, Louisville, in June. Program Chairman, Edmund H. Bouton, 210 W. Main St., Frankfort. Secretary, Martha Garnett, 2829 Brownsboro Rd., Louisville 6.

Louisiana, annual meeting, New Orleans, October 22-24. Program Chairman, W. Luther Stewart, 525 Johnston St., Alexandria 3. Secretary, V. L. Wharton, 406-07 Weber Bldg., Lake Charles.

Maine, annual meeting, Samoset Hotel, Rockland, June 25-27. Program Chairman, Edward P. Crowell, 28 Common St., Waterville. Executive Secretary, Mr. George R. Petty, Monmouth.

Massachusetts, annual meeting, Somerset Hotel, Boston, January 17-18. Program Chairman, Vincent Nils Hammersten, 111 Lincoln St., Newton Highlands 61. Executive Secretary, Mrs. Gladys M. Stockdale, 524 California St., Newtonville 60.

Minnesota, annual meeting, Hotel Lowry, St. Paul, May 7-9. Program Chairman, M. Sidney Hedeen, 1595 Selby Ave., St. Paul 4. Secretary, E. R.

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National Osteopathic Child Health Conference, Municipal Auditorium, Kansas City, Mo., April 20-22. Program Chairman, John C. Taylor, 3504 Troost Ave., Kansas City 9, Mo. Secretary, Luther W. Swift, 2105 Independence Ave., Kansas City 24, Mo.

New Mexico, annual meeting, Santa Fe, April 8-11. Program Chairman, Lawrence C. Boatman, 105 E. Marcy St., Santa Fe. Secretary, Lory Baker, 400 N. Church St., Las Cruces.

New York, annual meeting, Park Sheraton Hotel, New York City, October 14-18. Secretary, C. Fred Peckham, 38 E. Bridge St., Oswego.

North Carolina, annual meeting, Battery Park Hotel, Asheville, October 22-24. Secretary, Walter C. Eldrett, 1041 Kanuga Dr., Hendersonville.

Northwest Osteopathic Convention, Eugene Hotel, Eugene, June 15-18. Program Chairman, Richard E. Reilly, 4848 N. E. 102nd Ave., Portland 20.

Ohio, annual meeting, Neil House, Columbus, May 3-6. Program Chairman, Jack D. Hutchison, 117 W. Third Ave., Columbus 1. Refresher course, Netherland Hilton Hotel, Cincinnati, October 23-25. Program Chairman, Roger E. Bennett, 1613 Cage Dr., Middleton. Executive Secretary, Mr. William S. Konold, 53 W. Third Ave., Columbus 1.

Ontario, annual meeting, Hamilton, May 4-6. Program Chairman, Arden L. Findlay, 548 Gilmour St., Peterborough. Secretary, A. V. DeJardine, 205 Yonge St., Toronto 1.

Oregon: See Northwest Osteopathic Convention.

Society of Divisional Secretaries, midyear meeting, A.O.A. Central Office, Chicago, February 7-8. Program Chairman, Mr. Thomas C. Schumacher, 4775 Santa Monica Blvd., Los Angeles 29. Secretary, Mr. Barton K. Johns, 5009 Central Ave., Tampa 3, Fla.

South Dakota, annual meeting, St. Charles Hotel, Pierre, May 3-4. Program Chairman, Carl C. Pascale, Box 36, Centerville. Secretary, Earl W. Hewlett, 417 W. 27th St., Sioux Falls.

Tennessee, annual meeting, Hotel Patten, Chattanooga, April 26-29. Secretary, J. M. Moore, Jr., 200 High St., Trenton.

Texas, annual meeting, Rice Hotel, Houston, April 30-May 2. Program Chairman, George J. Luibel, 3037 James Ave., Fort Worth 10. Executive Secretary, Phil R. Russell, 512 Bailey St., Ft. Worth 7.

Virginia, annual meeting, Williamsburg Lodge and Inn, Williamsburg, May 22-23. Program Chairman, John A. Cifala, 2778 N. Washington Blvd., Arlington. Secretary, Olis M. Wakefield, 2022 Atlantic Ave., Virginia Beach.

Western States Osteopathic Society of Proctology, annual meeting, Long Beach, Calif., October 12-14. Secretary, Earle F. Waters, 925 E. South Temple St., Salt Lake City 2, Utah.

Wisconsin, annual meeting, Lake Lawn Hotel, Delavan, May 10-12. Program Chairman, Robert W. Johnson, 227 W. Lawrence St., Appleton. Secretary, V. L. Sharp, Butter Building, 1225 W. Mitchell St., Milwaukee 4.

State and national boards

ARIZONA

Those interested in professional examinations should contact Russell Peterson, D.O., secretary, Osteopathic Board of Registration and Examination in Medicine and Surgery, 2747 E. McDowell Rd., Phoenix 22.

Basic science examinations March 17 at the University of Arizona, Tucson. Applications must be filed 2 weeks prior to examinations. Address Mr. Herman E. Bateman, secretary, Basic Science Board, University of Arizona, Tucson.

COLORADO

Basic science examinations in March

at second floor lecture room, Y.M.C.A. Building, E. 16th Ave. and Lincoln St., Denver. Address Esther B. Starks, D.O., secretary, Basic Science Board, 1459 Ogden St., Denver 18.

CONNECTICUT

Basic science examinations February 14. Address Miss M. G. Reynolds, executive assistant, Board of Healing Arts, 110 Whitney Ave., New Haven 10.

DISTRICT OF COLUMBIA

Basic science examinations in April. Address Daniel Leo Finucane, M.D., secretary, Commission on Licensure, 1740 Massachusetts Ave., N.W., Washington 6, D.C.

HAWAII

Examination dates by Territorial Law are usually the first Wednesday, Thursday, and Friday of January, April, July, and October. One of these dates is set for examination after approval of the candidate's application by the Board. Address Frank O. Gladding, D.O., secretary, Board of Osteopathic Examiners, 504 Kauikeolani Bldg., Honolulu 13.

ILLINOIS

Examinations in January at Chicago. Address Mr. Frederic B. Selcke, Superintendent of Registration, Department of Registration and Education, State House, Springfield.

IOWA

Basic science examinations April 14 at the Capitol Building, Des Moines. Address Elmer W. Hertel, Ph.D., secretary, Board of Basic Science Examiners, Wartburg College, Waverly.

MICHIGAN

Basic science examinations February 13-14 at Detroit and Ann Arbor. Applications must be filed by February 1. Address Mrs. Anne Baker, secretary, Board of Examiners in the Basic Sciences, 116 Mason Bldg., Lansing, Mich.

MINNESOTA

Basic science examinations April 7 at University of Minnesota, Minneapolis. Address Raymond N. Bieter, M.D., secretary, Board of Examiners in the Basic Sciences, 105 Millard Hall, University of Minnesota, Minneapolis 14.

MONTANA

Examinations March 3. Address Asa Willard, D.O., secretary, Board of Osteopathic Examiners, Wilma Bldg., Missoula.

NEVADA

Walter J. Walker, D.O., Reno, has been elected president of the Board of Osteopathic Examiners. John H. Pasek, D.O., Minden, is secretary-treasurer.

Professional examinations January 30-31 at 345 Cheney St., Reno. Applications must be filed 2 weeks prior to examinations. Address Dr. Pasek, secretary, Board of Osteopathic Examiners, 345 Cheney St., Reno.

Basic science examinations April 7. Address Donald G. Cooney, Ph.D., secretary, Board of Examiners in the Basic Sciences, Box 9005, University Station, Reno.

NEW HAMPSHIRE

Examinations March 11-14 at Concord. Address John S. Wheeler, M.D., secretary, Board of Registration in Medicine, State House, Concord.

NEW MEXICO

Joseph M. Peterson, D.O., Albuquerque, has been appointed a member of the Board of Osteopathic Examination and Registration.

Professional examinations January 15. Address L. D. Barbour, D.O., secretary, Board of Osteopathic Examination and Registration, Roswell Osteopathic Hospital, Roswell.

Basic science examinations January 18. Address Mrs. Marguerite Cantrell, secretary, Board of Examiners in the Basic Sciences, Box 1522, Santa Fe.

RHODE ISLAND

Professional examinations April 2-3 at Providence. Address Mr. Thomas B. Casey, Administrator of Professional Regulations, 366 State Office Bldg., Providence.

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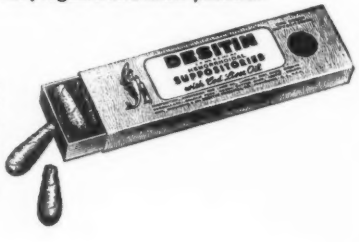

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812 Branch Ave., Providence 4, R. I.

Basic science examinations February 11 at Room 366, State Office Building, Providence. Applications must be filed 2 weeks prior to examinations. Address Mr. Casey.

SOUTH DAKOTA

Examinations January 20-21. Address Mr. John C. Foster, executive secretary, Board of Medical and Osteopathic Examiners, Room 300, First National Bank Building, Sioux Falls.

TENNESSEE

Professional examinations February 25 at Noel Hotel, Nashville. Applications must be filed by January 15. Address Marion Edmund Coy, D.O., secretary, Board of Examination and Registration for Osteopathic Physicians, 1226 Highland, Jackson.

Basic science examinations given every 3 months. Address O. W. Hyman, M.D., secretary, Board of Basic Science Examiners, 874 Union Ave., Memphis 3.

VERMONT

Examinations in January at Montpelier. Address Charles D. Beale, D.O., secretary, Board of Osteopathic Examination and Registration, Mead Bldg., Rutland.

WASHINGTON

Professional examinations in January at University of Washington, Seattle. Address Mr. Thomas A. Carter, secretary, Professional Division, Department of Licenses, Olympia.

Basic science examinations in January at University of Washington, Seattle. Address Mr. Carter.

WYOMING

Examinations February 2 at Cheyenne. Address Franklin D. Yoder, M.D., secretary, Board of Medical Examiners, State Office Building, Cheyenne.

Reregistration of osteopathic licenses

January—Alberta. No reregistration. Pay $10 a year membership in the College of Physicians and Surgeons, Alberta, in January. Address G. B. Taylor, acting registrar, Office of the Registrar, University of Alberta, Edmonton.

During January—Connecticut, $2. Address Frank Poglitsch, D.O., secretary, Osteopathic Examining Board, 300 Main St., New Britain.

During January—Minnesota, $2. Address Wallace F. Kreighbaum, D.O., secretary, Board of Osteopathic Examiners, 2748 Hennepin Ave., Minneapolis 8.

During January—Wisconsin, $3. Address Thomas W. Tormey, Jr., M.D., secretary, Board of Medical Examiners, State Office Bldg., 1 W. Wilson St., Madison.

January 31—British Columbia, amount of fee set at annual meeting of Council of College of Physicians and Surgeons. Address Lynn Gunn, M.D., registrar, Council of College of Physicians and Surgeons, 1807 W. 10th Ave., Vancouver 9.

Before February 1—Vermont, $3 residents; $2 nonresidents. Address Charles D. Beale, D.O., secretary, Board of Osteopathic Examination and Registration, Mead Building, Rutland.

Before March 1—Colorado, $2 if legal resident of state; $10 if not legal resident. Address Mrs. Beulah H. Hudgens, executive secretary, Board of Medical Examiners, 715 Republic Bldg., Denver 2.

April 1—Montana, $2 for those in active practice; $1 for those inactive. Address Asa Willard, D.O., secretary, Board of Osteopathic Examiners, Wilma Bldg., Missoula.

April 1—Wyoming, $2.50. Address Franklin D. Yoder, M.D., secretary, Board of Medical Examiners, State Office Building, Cheyenne.

Examination by National Board

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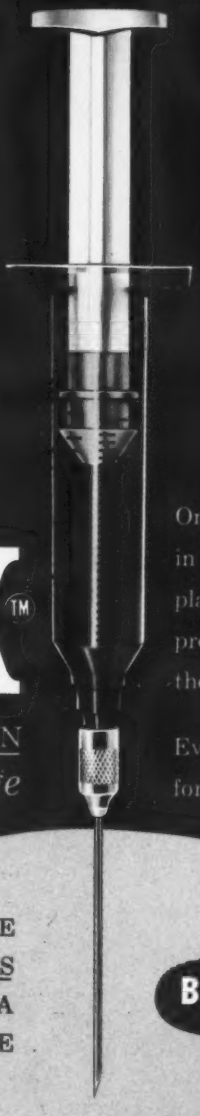

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conducts Parts I and II of its examinations on the first Thursday and Friday of each May and December at the six approved colleges. Application blanks may be obtained from the secretary of the Board or the dean of the college, and the completed application blank, together with check for the part to be taken, must be in the secretary's office by the November 1 or April 1 preceding the examination.

Examinations in Part I consist of anatomy, including histology and embryology; physiology; physiological chemistry; general pathology; and bacteriology, including parasitology and immunology.

Part II consists of examinations in surgery, including applied anatomy, surgical pathology, and surgical specialties; neurology and psychiatry; public health, including hygiene, medical jurisprudence; obstetrics and gynecology; pediatrics; osteopathic principles, therapeutics, including pharmacology and materia medica.

Part III is an oral and practical examination given under the supervision of a chief examiner who is a member of the Board and by a panel of associate examiners. Subjects covered in Part III are: anatomy; physiology; pathology; osteopathic principles; therapeutics and pharmacology; surgery; ophthalmology and otorhinolaryngology; obstetrics and gynecology; physical and clinical diagnosis; public health and communicable diseases.

These are oral examinations which the candidate may take after having satisfactorily completed the first 6 months of a 1 year internship in a hospital approved by the American Osteopathic Association for intern training. Part III is given annually. The schedule this year is as follows:—

Los Angeles—March 21-22, 1959.
Philadelphia—April 18-19, 1959.
Detroit—April 24-25, 1959.
Kansas City—To be announced.

Eligibility requirements are as follows: Part I, satisfactory completion of the first 2 years in an approved school of osteopathy; Part II, satisfactory completion of Part I and of the first two quarters or trimesters of the senior year in an approved osteopathic college; Part III, satisfactory completion of Part II and at least 6 months of a 1-year internship approved by the American Osteopathic Association.

Applications must be filed with the secretary of the Board not less than 30 days prior to the examination dates. Address Paul van B. Allen, D.O., secretary, 4425 N. Meridian St., Indianapolis 8.

Specialty board examinations

OBSTETRICS AND GYNECOLOGY

Examinations in February at Detroit. Applications must be filed before the April 1 prior to the examination date. Address Jacquelin Bryson, D.O., secretary, American Osteopathic Board of Obstetrics and Gynecology, 3300 E. 17th Ave., Denver 6.

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SERPASIL HAS PROVED EFFECTIVE AS A HEART-SLOWING AGENT IN THE FOLLOWING CONDITIONS:

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NOTE: In patients receiving digitalis or quinidine, Serpasil therapy should be initiated with especially careful observation. Serpasil is *not* recommended in cases of aortic insufficiency.

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Status of tuberculosis*

Tuberculosis, still one of this country's most costly infectious diseases, engaged the attention of 3,000 physicians, public health workers, and nurses at the 1958 annual meetings of the National Tuberculosis Association and its medical section, the American Trudeau Society, and of the National Conference of Tuberculosis Workers. The meetings were held concurrently May 19-22 in Philadelphia.

Although tuberculosis was the focal point of the meetings, nontuberculous diseases of the lung and cardiovascular diseases also were discussed, reflecting the broadening interests of the groups. Following a brief summary of tuberculosis facts and figures compiled by the National Tuberculosis Association, highlights of selected scientific papers are presented.

*Reprinted from *Public Health Reports*, November 1958.

TUBERCULOSIS FACTS AND FIGURES

- Approximately 800,000 people in the United States have tuberculosis, either active or inactive, but in need of medical supervision.
- Between 50 and 55 million people are infected with the tubercle bacillus.
- Approximately 90,000 new cases are reported each year, almost 70,000 of which are active cases.

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Relief with Triaminic is prompt and prolonged because of this special timed-release action . . . beneficial effect starts in minutes, lasts for hours.

first—the outer layer dissolves within minutes to produce 3 to 4 hours of relief
then—the inner core disintegrates to give 3 to 4 more hours of relief

Each TRIAMINIC *Tablet provides:*

Phenylpropanolamine HCl . . . 50 mg.
Pheniramine maleate . . . . . 25 mg.
Pyrilamine maleate . . . . . 25 mg.

One-half of this formula is in the outer layer, the other half is in the core.

Dosage: One tablet in the morning, mid-afternoon and in the evening, if needed.

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Also available: For the occasional patient who requires only half dosage: timed-release TRIAMINIC JUVELETS. Each Juvelet is equivalent to ½ of a Triaminic Tablet.

For those patients who prefer liquid medication: TRIAMINIC SYRUP. Each 5 ml. tsp. of this palatable syrup is equivalent to ¼ of a Triaminic Tablet.

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• The disease causes about 14,000 deaths a year.

• Tuberculosis costs the United States approximately $725 million a year, according to a study by the Public Health Service based on 1956 figures.

• Three principal drugs used in treating tuberculosis are, in the order of discovery, streptomycin, para-aminosalicylic acid (PAS), and isoniazid. Usually two of the drugs are given the patient, but in some cases isoniazid is given alone.

• Because none of these drugs kills all the tubercle bacilli, because of the phenomenon of drug resistance, and because some patients do not respond to treatment with these three drugs, one of the great needs in tuberculosis therapy is for improved medication.

• Among the drugs of limited usefulness are pyrazinamide, viomycin, and cycloserine. A new drug is kanamycin.

• The use of drugs to keep infection under control and the development of new surgical techniques have made it safer to remove diseased areas of the lung which might become foci of new infections.

• Drugs have also been the key factor in the current trend of treating tuberculosis in medical centers rather than in remote sanatoriums. Since drugs bring infection under control at an earlier date than was formerly possible, the danger of spread of disease by patients under treatment has been lessened. The danger of spread of disease by the unknown, untreated case is as great as ever. Tuberculosis is spread primarily by patients with active disease who cough up tubercle bacilli.

• The tuberculin skin test and the chest X-ray are the principal instruments for finding tuberculosis. The tuberculin test does not reveal active disease, but it does reveal infection by tubercle bacilli. It is a sensitive index of the danger spots in the community.

• If a person reacts to a tuberculin test, a chest X-ray is advocated. The chest X-ray is also indispensable to the physician in following the course of the disease, and it may also be used as the primary casefinding technique in many circumstances among adult population groups.

• A serologic test which may prove valuable in the diagnosis of active disease has recently been developed by scientists at Northwestern University School of Medicine, and is now under extensive study.

• BCG vaccination for certain groups of the population who are more than normally exposed to tuberculosis is advocated by the American Trudeau Society. It is given only to persons who are tuberculin negative. Thus the persons in greatest need of protection—the tuberculin positive, among whom most of the tuberculosis occurs today—are ineligible for vaccination with BCG.

• Studies are underway to determine the possible value of isoniazid as a prophylaxis.

• A vaccine which could be given to the entire population and which would not destroy the value of the tuberculin test (as does BCG) is among the great needs in the tuberculosis eradication program. Among the other questions for research are how tuberculosis drugs work, how the function of the lung can be preserved despite disease, and a better understanding of the tubercle bacillus itself.

NATURAL RESISTANCE AND THERAPY

The popular belief of Hippocrates' day that tall, fair men are more susceptible to tuberculosis than short, dark men may not be so wrong as modern-day scoffers would have us believe, according to Dr. Esmund R. Long of Pedlar Mills, Va., in the Amberson Lecture. Dr. Long is emeritus professor of pathology, University of Pennsylvania, and was formerly director of medical research for the National Tuberculosis Association and director of the Henry Phipps Institute.

Discussing the supporting structure of immunity in the therapy of tuberculosis, Long pointed out that recent studies on military personnel appear to bear out the ancient concept.

"The unexpressed thought seems to be that the characteristics named are genetically linked with other factors that are truly pertinent to native resistance," he said. Among these factors are hormones.

It has long been recognized, Long observed, that people with insulin deficiency have low resistance to tuberculosis, while those with an excess of thyroid hormone are not prone to the development of the disease.

Eternal Verities†

- The tubercle bacillus is still the cause of tuberculosis. The primary attack must be here and not diverted too much to secondary factors.
- The disease is still communicable from man to man and from animal to man.
- The tuberculin test is still the best means of locating tuberculous infection whether in the individual or the community.
- Tuberculosis still occurs essentially as a family epidemic, and epidemiology must start with the family unit.
- Tuberculosis is still an insidious and chronic disease; its early stages are asymptomatic. Vigilance is still necessary to detect the disease in its earliest stages.
- In spite of shortened periods of hospitalization, the disease still represents an economic drain in money and time.
- The disease is still socially disrupting in its effects on the family, on employment, and so on.
- Everybody is vulnerable regardless of age, sex, race, or social stratum.

As for the steroid hormones of the adrenal glands, cortisone, in suppressing inflammation, may be beneficial in some forms of tuberculosis, particularly meningitis, and detrimental in others. The important point, Long explained, is that cortisone does modify resistance; therefore, physiological differences in the body's production, which may occur as a result of a variety of stresses or strains, can be highly significant. Maintenance of a proper balance of cortisone would be the objective, Long indicated.

Possibly affecting hormonal balance but perhaps operating in some other fashion, mental attitudes have been described many times as favoring or controlling the progress of tuberculosis, Long said. To some they seem to be as vital as the use or non-use of chemotherapy.

The attitudes Long mentioned included anxiety, complacency, willpower, determination, cooperativeness, hostility, care, and carelessness.

Other factors that seem to influence resistance to tuberculosis are nutrition, other diseases and even accidents, and biochemistry, according to Long.

Dr. Max B. Lurie, of the Henry Phipps Institute, emphasized the influence of the thyroid on resistance to tuberculosis. He reported that thyroid hormones markedly suppress activity of tuberculosis in rabbits, while propylthiouracil (a thyroid depressant) and removal of the thyroid gland have the opposite effect.

Lurie also reported that production of antibodies against a nonspecific antigen (bovine serum albumin) can be "markedly enhanced" by a thyroid hormone in some rabbits.

PROTECTIVE MEASURES

Clean air is the best safeguard against the spread of tuberculosis, advised Dr. Richard L. Riley, associate professor of environmental medicine, Johns Hopkins University, Baltimore.

Riley suggested specifically, in order of decreasing importance, "air purification by ultraviolet irradiation, ventilation with plenty of fresh air, avoidance of crowding, covering coughs and sneezes, spitting into a handkerchief, and use of masks" as protective measures in hospitals.

People catch infectious diseases when infectious material becomes implanted on types of tissue on which it can grow, not simply by touching the material, he explained. Lung tissue is extremely susceptible to the tubercle bacillus; the skin, the upper respiratory tract, and the alimentary tract are much less so.

Hence, it is the small droplets, so tiny that they can be seen only in photography taken with special illumination, that are the culprits, according to Riley. These droplets, produced in large numbers by coughing, sneezing, spitting, laughing, and talking, evaporate in a fraction of a second, leaving dried residues called droplet nuclei. The droplet nuclei are small enough to float about on air currents and can be inhaled deep into the lungs where they are deposited.

Animal studies that have shown promising results with a tuberculosis vaccine were reported by Dr. H. Stuart Willis, of Chapel Hill, N. C. He said that a vaccine made from an attenuated strain of tubercle bacilli known as R_1R_V had offered more protection to guinea pigs than BCG vaccine. Co-authors of the paper were H. M. Vandivere and Margaret R. Vandivere, also of Chapel Hill.

Animal experiments have also indicat-

†Herman Kleinman, M.D., from a paper delivered at the annual meeting of the National Tuberculosis Association, Philadelphia, Pa., May 19-22, 1958.

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†Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. Fabricant, N. D.: E. E. N. T. Monthly 37:460 (July) 1958. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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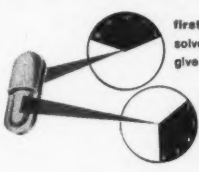

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Dormethan (brand of dextromethorphan HBr)	30 mg.
Terpin hydrate	180 mg.
APAP (N-acetyl-p-aminophenol)	325 mg.

Dosage: One tablet in the morning, midafternoon and in the evening, if needed.

Tussagesic • *timed-release tablets*

Contains* **TRIAMINIC *to* STOP *running noses and open stuffed noses orally*†

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ed that a limited degree of immunity to tuberculosis can be transferred by cells from vaccinated animals. These experiments were discussed by Dr. Emanuel Suter, University of Florida College of Medicine.

When monocyte cells from immunized animals were infected with tubercle bacilli, the multiplication of the organisms within the cells was restricted, Suter said, and, furthermore, protection was given mice injected with cells from immunized animals.

These results, Suter declared, show that washed cells from vaccinated animals can induce a limited degree of infection immunity. The limited protection suggests that a complex mechanism is responsible for acquired resistance in tuberculosis. Experiments by others using serum from vaccinated animals point in the same direction, he added.

DRUG THERAPY AND HOSPITALIZATION

Development of resistance to kanamycin was reported by Dr. Kenneth Wright, Onondaga Sanatorium, and Dr. Attilio Renzetti, Joseph Lunn, and Dr. Paul Bunn, department of medicine, State University of New York, Syracuse. This drug, made from a mold akin to that from which streptomycin and neomycin are derived, was discovered in Japan by Dr. Hamao Umezawa of Tokyo University.

Reporting on use of the drug with 12 patients who had not improved under other drug therapy, Wright said that by the end of 90 days the tubercle bacilli of all patients had become resistant to the drug, although there was X-ray and symptomatic evidence of improvement in 4 patients. The resistance, he added, was about the same as that observed with streptomycin when this drug was used alone.

Whether the use of another drug with kanamycin will delay development of resistance has not been determined, Wright said. He believes that further study with the drug is indicated.

A combination of cycloserine and viomycin may prove beneficial to patients who do not respond to isoniazid, streptomycin, and PAS, according to Dr. William S. Schwartz and Dr. Ralph E. Moyer, of the Veterans Administration Hospital, Oteen, N. C. Experience with 57 patients with moderately or far advanced disease who had failed to respond to other drugs indicates that the regimen may be the most promising "secondary regimen" so far tried.

A simple method of keeping track of how the individual patient is responding to isoniazid was described by Capt. Robert L. Taylor, Fitzsimons Army Hospital, Denver. Such a procedure is needed because patients vary in the way they metabolize the drug. Some break it down chemically and others excrete it without change. The latter derive the greater benefit.

For the rapid metabolizers, it may be practical to give larger doses than usual, Taylor said. After the patient's use of the drug is determined by a bioassay technique, the blood levels of isoniazid in the patient as the dosage is increased can be determined by simple chemical analysis, according to Taylor.

Despite the wonders of antibiotic and chemical therapy, "treatment of new cases of tuberculosis is best begun in the hospital," asserted Dr. Frances S. Lansdown, Dr. Julia Jones, and Fannie Behlen, of Bellevue Hospital, New York City. Their conclusion was based on a survey of more than 600 patients who had received care through the outpatient clinic of Bellevue, most beginning treatment in the hospital.

Initial treatment in the hospital facilitates complete clinical evaluation, allows careful observation during early periods of therapy when drug reactions most frequently occur, and minimizes the dangers of infection of associates in the home, they said.

Concerning the danger of infecting others, it was found that 42 patients discharged tubercle bacilli longer than 4 weeks, while the rest either had positive sputum for only a brief period or were sputum negative throughout the course of treatment outside the hospital.

SURGICAL TREATMENT

Major surgery for tuberculosis, even

Physicans turn to Tessalon® to control cough

Single agent with multiple actions broadens cough therapy

A single therapeutic agent developed by CIBA research now does all that has been attempted with combination cough remedies. Extensive clinical trials, involving more than 3,000 patients with acute or chronic cough, have shown that TESSALON *has at least six advantages* that result in better total management of the patient with cough:

1. TESSALON acts peripherally, to control cough in the chest.
2. TESSALON acts centrally, to control cough at the level of the "cough center" in the medulla.
3. TESSALON is reported to thin sputum.[1]
4. TESSALON increases vital capacity and ventilation.
5. TESSALON improves exercise tolerance.
6. TESSALON relieves dyspnea.

Fewer coughs per minute

Shane and co-workers,[2] using the method of Bickerman and Barach,[3] induced measurable cough in 20 volunteers, using a 15 per cent citric acid aerosol as the cough-producing agent. The antitussive efficacy of TESSALON (100 mg.) was estimated to be 2½ times that of codeine (½ grain) in this test.

Cough suppressing activity of TESSALON[2]

	Average Number of Coughs*
No therapy	8.3
Codeine	4.4
TESSALON	1.7

*Based on 5-minute interval immediately following inhalation of citric acid to induce cough. Each patient was tested on three separate occasions.

Controls cough in the chest

It has been shown that the increased sensitivity of the sensory receptors in the lung during inspiration is an important part of the cough mechanism. TESSALON has a selective inhibiting effect on these dilation or "stretch" receptors[4] that helps to control cough where cough begins—at points of irritation in the chest.

Controls cough at the cough center in the medulla

Spinal reflex arcs were studied for the inhibitory effect of TESSALON on the transfer of afferent cough impulses to the efferent branch of the cough reflex.[5] The administration of TESSALON inhibited reflex transmission, when the afferent nerve was stimulated electrically. With this "damping" effect on the cough center in the medulla, TESSALON controls cough centrally, as well as peripherally.

Thins sputum

TESSALON controls cough frequency without interfering with productivity or expectoration. In fact, sputum is usually thinner, easier to raise.[1]

Effect of TESSALON on sputum[1]

Amount		Consistency	
Less	32 patients	Heavier	3 patients
More	2* patients	Lighter	27 patients
Same	16 patients	Same	20 patients

*These patients noted more but lighter sputum.

Increases vital capacity

Respiration usually increases both in depth and volume during TESSALON treatment.[6] In one study,[7] patients with chronic respiratory disease, with and without bronchospasm, showed a mean increase of 19.7 per cent in vital capacity after a 2-week course of TESSALON.

Improves exercise tolerance

By inhibiting stretch receptor activity, and by increasing air intake, TESSALON enables patients to tolerate exercise or work better, eliminates many paroxysms of coughing.

Relieves dyspnea

Farber and Wilson[8] note that one of the important contributions of TESSALON to cough therapy is "...its action as a reliever of dyspnea in some patients." Shortness of breath, wheezing, weakness, "blackouts" are not likely to trouble the patient treated with TESSALON.

Fast, prolonged action

The cough suppressant effect of TESSALON starts rapidly—usually within 15 to 20 minutes. The duration of effect is prolonged—usually from 3 to 8 hours.

removal of an entire lung, does not prevent safe childbirth, according to an obstetrician, Dr. George Schaefer, of Cornell University Medical College. He reported on the safe delivery of 32 babies to 29 tuberculosis patients who had been operated upon either before they became pregnant or during their pregnancy. The operations included removal of a lobe of the lung, removal of a segment of a lobe, and collapse of lung by a thoracoplasty.

In all instances antimicrobial drugs were given the mother without harm to the child, said Schaefer, but in no instance was the mother permitted to nurse her baby.

Chicago surgeons T. W. Shields, W. M. Lees, and R. T. Fox reported a followup study of 101 persons who had had a lung removed between 1951 and 1955 because of tuberculosis. They found that 11 of the patients died within 60 days of the operation and another 5 died within a year as the result of complications. Nonfatal complications occurred in 18 patients. The majority of the patients, 57, had uneventful postoperative courses.

For patients who have difficulty in breathing because of chronic lung disease, a "window" that will open and close can be carved in the windpipe. Construction and operation of the window were described by Dr. Edward Ernest Rockey, clinical instructor in surgery, New York Medical College, New York City.

The window is cut in the front wall of the trachea and can be reached from the outside through a skin tunnel. The tunnel is entered between two doorlike skin valves located over the front of the neck.

The procedure, used mainly on patients with emphysema, permits access to the tracheobronchial tree so that secretions can be aspirated and medication applied by the patients, according to Rockey. Of the 6 on whom it has been tried, 2 have improved sufficiently to leave the hospital for the first time in years.

Co-authors of the report were Dr. Samuel A. Thompson, New York Medical College; Dr. Charles F. Blazsik, St. Anthony's Hospital, Woodhaven, N. Y.; Dr. Edgar Mayer, New York University Postgraduate Medical Center; and Dr. Israel Rappaport, Columbia University College of Physicians and Surgeons.

MIMICS OF TUBERCULOSIS

A disease caused by "atypical" mycobacteria that mimic the tubercle bacillus but are distinct from it has been reported among 100 patients in Florida hospitals. The disease in these patients was discussed by Dr. Albert G. Lewis, Jr., Frank P. Dunbar, Dr. Eunice M. Lasche, and Dr. Ernest N. Lerner, of Tampa; Dr. Robert J. Davies, of Tallahassee; and Dr. Dwight J. Wharton and Dr. James O. Bond, of Jacksonville.

All the patients had chronic pulmonary disease, but the organisms recovered from their sputum had characteristics different from the tubercle bacillus. The bacilli were grouped as photochromogens (yellowish when exposed to light); nonphotochromogens (without color); scotochromogens (yellowish in the dark); and unclassified.

Most of the atypical organisms were resistant to isoniazid and PAS and were partially resistant to streptomycin, according to the Florida report. Treatment was highly effective in patients from whom photochromogens and scotochromogens were recovered, but not so effective among those infected with nonphotochromogens.

"Clinically, radiologically, and pathologically," the report stated, "the cases are indistinguishable from tuberculosis."

Sarcoidosis, another mimic of tuberculosis, was the subject of a symposium. A mimic also of cancer, this lung disease is of unknown origin. The highest prevalence, according to Dr. John S. Chapman, professor of medicine, Southwestern Medical School, University of Texas, is in the southeast. Also, it is found more frequently among Negroes than among whites and is rare in the Chinese and in American Indians, he stated.

Although the steroids—prednisone and prednisolone—do not cure sarcoidosis, they have a suppressive action that may be beneficial "in selected instances where the unremitting course of the disease is producing loss of organ function or is even life threatening," stated Dr. Louis E. Siltzbach, Dr. Mark M. Imberman,

Indications
TESSALON is indicated in acute and chronic cough.
ACUTE: Common cold, Bronchitis, Pneumonia, Upper respiratory infection, Pleurisy, Spontaneous pneumothorax, Bronchial irritation provoked by gases and foreign bodies. CHRONIC: Pulmonary emphysema, Bronchitis (emphysematous, asthmatic), Bronchial asthma, Tuberculosis, other chronic pulmonary diseases, Pulmonary or mediastinal tumors
PROCEDURES: Bronchoscopy and bronchography, Thoracentesis, Thoracic surgery
Dosage
ADULTS: Average dosage is one Perle (100 mg.) t.i.d. If necessary, or where cough is refractory, up to 6 Perles (600 mg.) daily may be given.
CHILDREN UNDER 10: One Pediatric Perle (50 mg.) t.i.d. is the usual dosage.
The Perles should be swallowed without chewing, and, if necessary, with a liquid. Release of TESSALON from the Perle in the mouth produces a temporary local anesthesia of the oral mucosa.
Side Effects
TESSALON is well tolerated. Only occasionally have side effects been reported. Skin rash, nasal congestion and a vague "chilly" sensation have been mentioned. In rare instances, gastrointestinal upset, constipation or sedation have been observed. No adverse effects on respiration, kidney or liver function tests, blood count or urinalysis were reported.
Supplied
Perle form (liquid-filled gelatin spheres) provides speed of liquid medication—convenience and dosage accuracy of capsule medication. In two strengths: 100-mg. Perles (yellow), for adult use; 50-mg. Perles (red), for children under 10.
Samples available on request.
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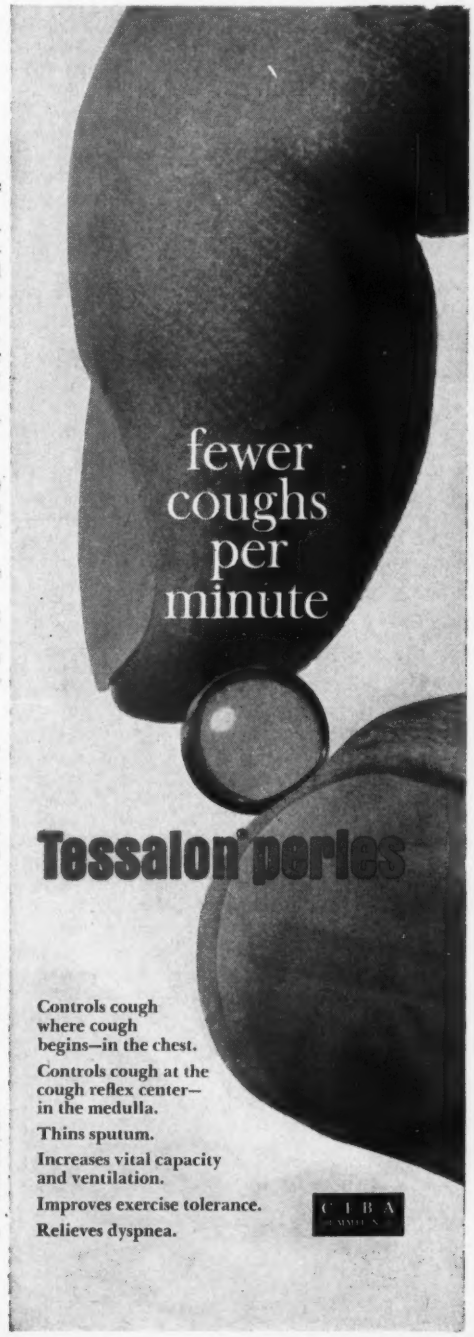

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REFER TO PDR PAGE 768

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SANDOZ

and Dr. Howard Grossman, of Mount Sinai Hospital, New York City.

OTHER CHEST DISEASES

A negative association between physical activity and coronary artery disease at a young age was suggested in a report by Dr. David M. Spain, a pathologist at Beth-El Hospital, Brooklyn, and Dr. Victoria A. Bradess, medical examiner of Westchester County, N. Y.

The apparent reason is that "activity promotes the development of collateral circulation," they indicated. In other words, the blood vessels of the active man are in a condition, because of exercise, to take over a major role in the circulatory system.

The report was based on a postmortem study of 1,500 sudden deaths in Westchester County during an 8-year period. Deaths from coronary occlusion were classified according to occupation, regardless of economic status. The data, Spain and Bradess specified, showed that the men in sedentary positions had died at a younger age than the men who led a more active life.

To determine whether this might mean that there had been an increase in coronary artery disease or that more inactive than active people had atherosclerosis and thrombosis, they analyzed data on the amount of atherosclerosis among men of comparable age groups who had died suddenly from accidents. They found no significant difference in the amount of coronary atherosclerosis in the various age groups in relation to differences in occupational physical activity.

In another paper, pathologists from several cities reported a new lung disease. Characterized by a stoppage of the alveoli with a protein-like material rich in fats, the disease has been tentatively designated "alveolar proteinosis," according to Dr. Samuel H. Rosen, of the Veterans Administration, assigned to the Armed Forces Institute of Pathology, Washington, D. C.

Co-authors were Dr. Benjamin Castleman, of Massachusetts General Hospital, Boston; Dr. Averill A. Liebow, of Yale University Medical School; Dr. Frank M. Enzinger, also of the Armed Forces Institute of Pathology; and Dr. Richard Thomas N. Hunt, of Massachusetts General Hospital.

Diagnosis was based on biopsy material or autopsy specimens from 25 patients from all sections of this country and (one each) from Canada, England, and Italy. Although the first case was observed at Massachusetts General Hospital 5 years ago, Rosen said that most of the cases have been seen within the past 3 years.

There have been 8 deaths. In 3 of the patients who died, a fungus disease was superimposed on the original condition, Rosen said.

At the onset of illness, there are in some instances symptoms usually associated with pneumonia. The most common complaint is shortness of breath, usually with cough, he added.

No micro-organism has been detected that can be considered the causative agent. It is assumed that the disease is due to inhalation of a foreign substance, but the only clue, according to Rosen, is that 4 of the patients worked in lumber yards and 2 were electricians.

Treatment with antibiotics or corticosteroids does not appear to alter the course of the disease, and since the disease spreads through both lungs, surgery is not possible, said Rosen.

LUNG CANCER

A method of producing cancer of the lung in animals in order to study suspected carcinogens was reported by Dr. Marvin Kuschner, director of pathology, Bellevue Hospital, New York City.

Pellets containing known carcinogens were implanted in the bronchi of rats through an opening made in the windpipe. Following implantation, Kuschner said, squamous cell tumors, the type usually found in cancer of the lung, originated in the bronchus around the pellet and extended into the neighboring lung.

Chemicals used in experiments so far have included, he said, polycyclic hydrocarbons, methylcholanthrene, dibenzanthracene, and benzpyrene. Studies are now underway to determine if lung cancer can be produced by this technique with components of tobacco tar, compounds of chromium, and ionizing radiation.

Co-authors of the paper were Dr. Sidney Laskin and Dr. Norton Nelson, department of industrial medicine, New York University.

Treatment of tuberculosis in a general hospital*

William B. Tucker, M.D.†

For about 75 years tuberculosis patients requiring hospital treatment have received care primarily in hospitals specializing in this disease, usually designated as sanatoriums. As the result of the impetus given the sanatorium movement in the Adirondacks, by Dr. Edward Livingston Trudeau, the public came to associate treatment of tuberculosis with presumed benefits of the geographic location of sanatoriums. Ironically, it has now been established that it is not the geography or climate of such institutions that is beneficial, but other aspects of their treatment programs, principally close supervision by those familiar with the disease and a certain degree of rest and regularity of routine. It is now apparent that the results obtained in sanatoriums could have been achieved quite as well in general hospitals or in specialized tuberculosis hospitals located in cities and associated with general hospitals.

Recently, following profound changes in the treatment of tuberculosis, there has begun a trend toward care of tuberculosis patients in general hospitals. The majority of sanatoriums, built during the great wave of providing tuberculosis beds in the early decades of this century, remain geographically isolated to a considerable extent. Modern communications have narrowed the gap in distance and time between sanatoriums and medical centers, but relatively few tuberculosis hospitals are integrated parts of centers providing complete medical care.

It is difficult to estimate how many patients now are receiving care for tuberculosis in general hospitals. The directory of tuberculosis hospitals and sanatoriums formerly published by the National Tuberculosis Association every 3 or 4 years, which could be a source for such information, has not appeared with figures later than those for 1953. There are no plans for publishing another directory in the immediate future because the picture is changing so rapidly that any tabulation would be out of date before it came from the presses.

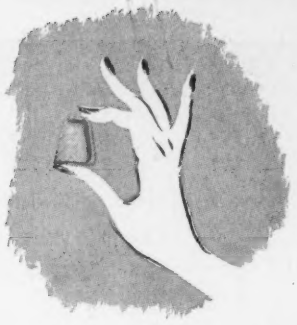
Nevertheless, let us consider such figures as are available for the United States. By 1953 or 1954, the period of peak demand for tuberculosis hospitalization, there were 108,000 tuberculosis beds in the United States. (In all these figures I am excluding beds for tuberculosis in mental hospitals or penal institutions, for in these the individuals would remain as charges regardless of their tuberculosis.) At the turn of the century, when there were 200 deaths per 100,000 population, there were less than 10,000 tuberculosis beds, or 1 bed for each 18 annual deaths. By World War I the number of beds had reached 50,000, a ratio of 1 bed for each 3 annual deaths. Many of us remember the drive of the 1930's and 1940's to have enough beds for a ratio first of 2 beds per annual death, then 2.5, and finally 3, in all States. As progress was made in avoiding tuberculosis deaths, the number of deaths declined from 165,000 early in the century to 100,000 in the middle 1920's, to 50,000 in the middle 1940's, and to 20,000 in the middle 1950's (in spite of great population growth), and the ratio of beds to deaths finally reached 5:1 for the Nation and more than 10:1 in many States.

During all of this period the majority of beds for tuberculosis were in sanatoriums. In 1953, 92 percent of the 108,000 beds were so located.

Furthermore, the majority of the 9,000 tuberculosis beds in general hospitals were there for certain specific limited purposes, not for routine long-term care. The Index of Hospitals and Sanatoria With Tuberculosis Beds, published by the Public Health Service annually in

*Reprinted from *Public Health Reports*, October 1958.

†Dr. Tucker is director of the Tuberculosis Service, Veterans Administration. He presented this paper, with minor modifications, at the 9th Annual Conference of the Tuberculosis Institute of Chicago and Cook County, in Chicago, on March 20th, 1958.



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*Eastman, N. J., Seibels, R. E.: J. Am. M. Ass. 139:16, 1949. Eastman, N. J.: South. M. J. 42:346, 1949.

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recent years, is sprinkled liberally with the following kind of footnotes for general hospitals listed as providing care of tuberculous patients: diagnosis only, surgery only, diagnosis or short-term care only, temporary hospitalization only pending transfer, less than 5 tuberculosis beds, all patients are transfers in for rehabilitation, takes only ambulatory patients, and no specific number of beds set aside for tuberculosis.

Because data for the United States as a whole are difficult to obtain in recent years, I shall turn to the experience of the Veterans Administration. Since World War II the VA has cared for approximately one-tenth to one-eighth of all the tuberculosis patients of the country, roughly the same proportion as the ratio of veterans to total population. In 1954, the year of peak demand, there were 14,200 beds for treatment of tuberculosis in hospitals, excluding 2,300 for the care of the psychiatric tuberculous. Of these 14,200 beds, 8,200, or 58 percent, were in tuberculosis hospitals, the remainder being in general medical and surgical hospitals.

Prior to World War II a far higher percentage were in tuberculosis hospitals. The fortuitous coincidence of the opening of a number of new VA general hospitals with a greatly increased demand for tuberculosis care among veterans immediately after the war permitted the establishment of many units or sections for tuberculosis patients in general hospitals. Furthermore, the lessening of the demand for beds since 1954 has made it possible to effect adjustments generally favoring locations where more complete medical care is available. By 1957, the VA had approximately 11,600 beds for tuberculosis patients (other than in mental hospitals). Of these, 5,200, or 45 percent, were in general hospitals. The trend is continuing in the VA, and it probably will not be many years before more than half of the veterans requiring treatment for tuberculosis in VA hospitals will receive it in general hospitals.

These gross figures, moreover, do not tell the whole story. Just as an increasing proportion of the care of the tuberculous is being provided in what are officially designated as general hospitals, so have officially designated tuberculosis hospitals in the VA increasingly become in fact general hospitals. There is an almost continuous spectrum among the 173 VA hospitals, with respect to beds for tuberculosis, from 100 percent for nontuberculous conditions to 100 percent for tuberculosis. In fact, if the 4 VA "tuberculosis hospitals" in which more than 50 percent of the patients have nontuberculous diseases are added to the VA's general hospitals, these hospitals in 1957 cared for more than half the VA's total tuberculosis patients (6,000 out of 11,600 beds).

REFLECTION OF TREATMENT CHANGES

What does this changing picture with regard to where patients with tuberculosis are cared for reflect?

It reflects the most rapid changes in the treatment of tuberculosis since it was established 75 years ago that tuberculosis is generally a curable disease. Treatment methods have changed drastically since the discovery of specific drugs. Streptomycin has been generally available for 11 years; isoniazid for less than 6. Yet it was not until about 4 years ago that the clear superiority of prolonged drug treatment, replacing many other forms of therapy, was established.

Nearly everyone is aware of the declining demand for tuberculosis beds in the United States and of the closing of many sanatoriums, including Trudeau Sanatorium, the bellwether of them all, a few years ago. What is not so generally realized is that the number of individuals requiring treatment has diminished very little, or not at all, in recent years. In the Veterans Administration, for example, there was no decrease in the last 3 years in the number of veterans admitted to VA hospitals for treatment of active tuberculosis: there was in fact a 2 percent increase. During the same period there was a 16 percent decrease in the average number of patients hospitalized for tuberculosis. These apparently conflicting figures can be explained only in one way: the same number of patients are being treated for a shorter period of time in the hospital on the average. In the VA the average has decreased from slightly less than a year to a little more than 8 months. At the same time, as has been true generally throughout the country, the percentage of deaths has decreased drastically, and the percentage reaching "inactive" stage

has increased, so it is clear that the shortening of hospitalization has not resulted in less effective control of the disease.

I shall try briefly to characterize the changes that have occurred in less than a decade.

Bed rest used to be the sine qua non, the essential; today complete bed rest is employed only for the seriously ill patient, and much more freedom of physical activity within the hospital is permitted, and even regarded as beneficial.

Collapse therapy, such as pneumothorax, thoracoplasty, and pneumoperitoneum, was once widely employed; today these procedures are relied upon less and less, with resectional surgery playing a more prominent role.

Formerly the return from a period of severely restricted activity to a more or less normal life was prolonged and gradual, usually extending, in the hospital and out, over a period of several years; furthermore, many individuals were advised permanently to change their occupation. In contrast, today the transition from hospital to full-time activity can be much more rapid, and it is seldom that a change in occupation, even for manual laborers, is indicated.

The principal element permitting these changes has been the effective use of drugs. (The preceding applies primarily to the care of patients with pulmonary tuberculosis. Patients with certain other forms of tuberculosis, as of the kidneys or the bones, also fit this pattern, but need supporting consultant services to a greater extent.)

When we speak of general hospitals, we usually think of private hospitals where the majority of care is for relatively acute medical or surgical conditions, requiring relatively brief periods of hospital care. What may not be generally realized is that in such hospitals rather drastic changes are occurring also. As our population gradually grows older, on the average, it is more susceptible to the diseases described as chronic, which require longer periods of medical care. The need for long-term care has become so acute in many communities that an entirely new movement, the home medical care plan, has arisen to relieve the increased hospitalization demands, principally for the more chronic medical conditions.

Thus it is, in recent years, as a broad generalization, that "acute" hospitals have come to be more "chronic" in the care they provide, while such a "chronic" disease as tuberculosis has come to be more "acute" in its hospitalization requirements. It is principally because of this gradual merging in the function of these two types of hospitals, formerly so divergent, that it is possible for general hospitals to consider caring for tuberculosis patients.

Two other major trends in the field of tuberculosis need to be mentioned. One is the increasing complexity of the medical care of tuberculosis. More tuberculosis patients are in older age groups, susceptible to other diseases of the elderly, so that more access to specialized consultation services is required than formerly. There is much more need for extensive laboratory work, not only that of tuberculosis bacteriology, but also that associated with drug treatment and with the management of related nontuberculous conditions. And, as has been mentioned, there is need for access to the now highly specialized branch of surgery, thoracic surgery, chiefly of the resective, or excisional, type. In brief, the best care of the tuberculosis patient today can be given only where many diverse supporting medical and allied disciplines can be brought to bear. These usually are available in general hospitals. They also have been brought successfully to many tuberculosis sanatoriums through the extensive use of consultants. But clearly the greater the geographic separation the more difficult this integration.

The other trend has to do with the number of physicians interested in the tuberculosis field. It is sad and ironic but true that for many decades a majority of the physicians caring for tuberculosis patients were those who themselves acquired the disease, recovered from it, and were advised to practice the more sheltered brand of medicine to be found within a sanatorium. The control of the spread of tuberculosis has been so great, fortunately, that now far fewer physicians are placed in this position. While accurate figures are not available, it is my impression that the supply of physicians to care for tuberculosis has decreased in recent years at a

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greater rate than the decrease in the number of patients hospitalized.

The training of physicians has much to do with this decrease. Today it is rare that the internist completing his residency training elects to enter the field of tuberculosis per se. He often is interested in the field of pulmonary diseases, which includes tuberculosis, but he is usually unwilling to limit his practice exclusively, or even to devote a really large part of it, to the care of tuberculosis.

These and other facets of the changing picture of tuberculosis make it almost inevitable that in the future an increasing proportion of the care of tuberculosis patients will be in "general" hospital settings.

ANSWERS TO OBJECTIONS

It has been my experience, in discussing the feasibility of caring for tuberculosis patients in general hospitals, for many individuals to think at first of the difficulties to be overcome. It has also been my experience, in three separate general hospitals, that it can be satisfactorily demonstrated, to hospital administrators, to boards, and to others, that the advantages are real and that potential disadvantages are not in fact as great as they may seem.

One of the first problems to be mentioned, and perhaps the principal one, is contagion. Certainly tuberculosis continues to be a communicable disease. However, of a group of 100 tuberculosis patients, today, with effective drug treatment, only 25 to 40 (depending on how serious is the disease among the patients admitted) are infectious at any time, instead of the vast majority, as formerly. Today the average tuberculosis patients become "negative" in 4 or 5 months or less after the start of treatment. Thus "isolation precautions" are not necessary for the majority of tuberculosis patients. Patients may be separated into "positive" and "negative" groups by rooms or by wards, with isolation precautions restricted to the former and much more freedom permitted the latter.

There is also the associated risk of hospital employees' acquiring active tuberculosis. In the Veterans Administration, some 100,000 hospital employees receive regular X-ray examinations each year. The new tuberculosis case rate among them has been declining progressively in all VA hospitals, but the important thing to report is that the risk is not greater, in the VA, in tuberculosis hospitals than in general hospitals. Furthermore, among about 60 general hospitals in the VA caring for tuberculosis patients, in which the percentage of patients hospitalized for tuberculosis ranges from less than 5 percent to more than 40 percent, there is no statistically significant relationship between percentage of tuberculosis patients and rate of development of active tuberculosis. There is some risk in working in any hospital, although the risk is declining, especially as the practice of X-raying hospital patients on admission, to detect the unknown infectious case, spreads. The essential points are that the risk of hospital employees' acquiring tuberculosis is not greater in general hospitals caring for tuberculosis patients than in general hospitals not caring for them and that it is not less in general hospitals than in tuberculosis hospitals.

A separate study made in the Veterans Administration reveals that volunteers working in VA hospitals, whether with or without tuberculosis patients, run essentially no risk of getting active tuberculosis. Among 20,000 examined last year, not a single new case was found.

A number of other problems in hospital management associated with the contagiousness of the disease deserve brief mention. It was once thought that many hospital facilities could not be used in common by tuberculous and nontuberculous patients. It is now known that much less duplication is necessary than was formerly thought. Studies of library books used by infectious tuberculosis patients have not shown that they are carriers of tuberculosis germs. Separate dishwashing facilities are not necessary if proper precautions are taken in preparing dishes for washing and the washers are properly operated. Separate dental and ear, nose, and throat units do not need to be established if tuberculous and nontuberculous patients are treated at separate times and if instruments are carefully disinfected. Patients with infectious tuberculosis may safely be transported to the hospital laboratory facilities or to the X-ray department by carrying out simple and effective isolation precautions. Letters written by tuberculous patients may safely be dispatched. With moderate safeguards infectious tuberculosis patients may enjoy the privi-

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1. Dale, Lamar B., Jr., Amer. Prof. Pharm. 22-11, Nov., 1956
2. Chelated ref. J.A.M.A. – 1958
3. May, C. E., Nelson, E. N., Salmon, R. J., et al, Bull. Univ. Minn. Hosp. and Minn. Med. Found. 21,208 (1950) ® REGISTERED U. S. PATENT OFFICE

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These statements do not, of course, suggest that all isolation precautions may be abandoned. Quite the contrary; they are made on the assumption that such precautions are carried out meticulously when indicated, for the "positive" patient. Wearing of gowns and masks, handwashing, restriction of infectious patients to certain geographic areas, special techniques for disposal of infectious waste materials, special handling of contaminated laundry, and other special techniques continue to be needed. But it has been established that these measures do not introduce insuperable obstacles. And when these relatively minor inconveniences are balanced against the greater advantage to the tuberculosis patient of having direct and immediate access to all the facilities of the general hospital, increasingly there is recognition that the general hospital can, and probably should, share in the care of tuberculosis patients.

One more aspect of hospital care for the tuberculosis patient should be considered, that is, rehabilitation. First, as has already been implied, extensive rehabilitation is required not nearly to as great an extent as formerly; second, retraining of tuberculosis patients for new professions or occupations is now seldom indicated; and, third, "on-the-job" training, if indicated, can now occur after a relatively short period in the hospital, while the patient is still under close medical supervision on an outpatient basis and while he is continuing to take drugs.

However, certain elements of what is commonly called rehabilitation are still desirable for tuberculous patients. While necessarily hospitalized, they need (*a*) diversion, (*b*) an opportunity to study if they so desire, and (*c*) entertainment. Fortunately most of these needs can be supplied through the voluntary services available to most general hospitals, and rehabilitation counselors in many States are glad to work with the staffs of local hospitals. In brief, the so-called rehabilitation needs of tuberculosis patients have now become less exacting and generally can be encompassed within the framework of the general hospital.

CONCLUSION

I have tried to describe broadly the changing pattern of hospital treatment for tuberculosis in the past decade; to indicate some of the reasons why general hospital treatment for tuberculosis is not only feasible but may be conducive to improved medical care; and to indicate some of the problems. Nothing I have said is to be construed as indicating that excellent care cannot be given in a tuberculosis hospital or sanatorium specializing exclusively in the care of the tuberculous. It can be, but it is more difficult. What I have tried to outline is the feasibility of the general hospital's participating in the treatment of tuberculosis patients.

I shall close by gazing a little into the future. The time will come, I feel sure, when the average, well-trained physician is as well trained in tuberculosis as he now is in cardiac or digestive disorders. The time will come, I am confident, when individuals with active tuberculosis —constantly diminishing in number—can be cared for by such a well-trained physician in a general hospital, small or large, in their home communities.

The time of course may come when we shall not have to worry about treating tuberculosis at all! But I cannot envision that event in the predictable future. Tuberculosis remains the No. 1 infectious disease in this country. I do believe that the general hospital will play an increasingly prominent role in its control, but only if the current sound medical and public health principles continue in force. Care in the general hospital will, for a time, supplement other tuberculosis control measures; ultimately it may become the mainstay of our efforts.

Blindness in the United States*

Blindness constitutes a social and economic problem of considerable magnitude. The exact number of blind persons in the United States is not known, but the National Society for the Prevention of Blindness estimates that there are 345,000 persons who are either totally blind or with impairment of vision sufficiently great to prevent the conduct of normal activities.† This number is

*Reprinted from *Statistical Bulletin*, Metropolitan Life Insurance Company, October 1958.

†This degree of impairment is defined as corrected vision in the better eye of 20/200 or less or marked constriction of the visual fields irrespective of central vision.

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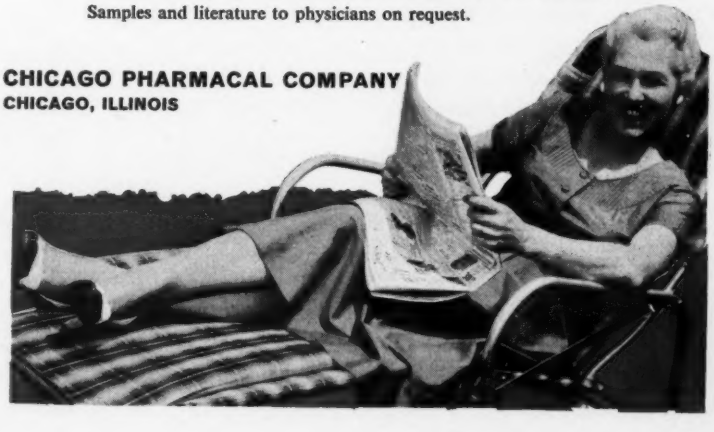

equivalent to a rate of 2 per 1,000 population. The annual number of new cases of blindness, so defined, is estimated at nearly 30,000, or 17 per 100,000 population.

Blindness is most prevalent among older persons. Slightly more than half of the estimated total are 65 years of age or over. Approximately 30 percent are between ages 40 and 64, 12 percent between 20 and 39, and 7 percent under age 20. New cases currently show an even greater concentration at the older ages.

The age distribution of the blind population reflects the fact that the most frequent causes of blindness very generally have their onset in middle and later life. These include specific eye conditions of unknown etiology, particularly glaucoma and cataract, and general disorders, such as arteriosclerosis, high blood pressure, nephritis, and diabetes. Glaucoma and cataract account for nearly one third of all cases of blindness, and degenerative disorders and diabetes for about one seventh of the total. Prenatal and hereditary disorders, the most common causes of blindness occurring in infancy and childhood, are responsible for about one eighth, and infectious diseases for one tenth, respectively, of all cases. Accidents account for about one twentieth of the total.

The blindness rate is considerably higher in males than in females. In part, this results from their higher incidence of blindness due to accidents and to the earlier development of arteriosclerotic and other degenerative changes among them. The blindness rate is also much higher in the nonwhite than in the white population.

The prevalence of blindness shows marked geographic variation. In 1957 the estimated prevalence rates ranged from 1.4 per 1,000 population in Utah to 3.5 in New Mexico. In general, the lowest rates are found in the Northwest and the Far West, and the highest rates in the South and Southwest. These variations reflect in large part the relative proportions of older people and of nonwhites in the population as well as the comparative levels of public health and industrial activity.

Remarkable progress has been made in reducing the incidence of blindness of infectious origin. Among children of school age this rate decreased over 70 percent in little more than a decade, according to studies by the National Society for the Prevention of Blindness. Preventive measures are largely responsible for this drastic reduction.

Particularly significant is the trend of blindness due to retrolental fibroplasia, the occurrence of which is virtually limited to premature infants. At present the occurrence of new cases is rare, in contrast to the situation only a few years ago. The reversal of the trend was brought about by the discontinuance of the practice of administering oxygen in high concentration to premature infants. However, there are still approximately 8,000 children and young people with blindness due to this cause.

The longevity of blind persons varies with the cause of blindness. Obviously, those in whom the loss of sight reflects advanced degenerative changes have a relatively poor outlook. On the other hand, people whose blindness is due to accidents or causes which have no effect on general health have a favorable prognosis. Carefully selected cases of this kind are eligible for Life insurance, and their mortality experience has been relatively good. It is notable that the death rate from accidents among them is low, mainly because they generally lead somewhat sheltered lives.

The problem of blindness in the United States will be increasingly concentrated among older people, primarily as a consequence of the steady growth in this segment of our population. Control of the problem by preventive measures is seriously hampered by lack of knowledge of the causative factors in glaucoma, cataract, and degenerative disorders resulting in loss of vision. Additional research obviously is needed in this field, as it is in determining the hereditary and prenatal factors in blindness occurring in early life.

Even in the present state of knowledge, much can be done to prevent blindness. A study in Baltimore showed that half the cases of blindness could have been prevented. Early diagnosis and treatment of pathological eye conditions are the best available means to conserve sight. Periodic health checks, particularly among people past midlife, should include examination of the eyes for glaucoma and cataract as well as for changes due to degenerative vascular diseases.

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There is need also for greater efforts to rehabilitate the blind. The excellent programs of vocational training and educational and recreational services carried on by agencies for the blind in some communities indicate how much can be accomplished along these lines. The extension of these programs to other communities would help greater numbers of blind people to enjoy more useful and fuller lives.

Note: In addition to data supplied by Dr. Franklin M. Foote of the National Society for the Prevention of Blindness, the major sources used in this article were: Kerby, C. E., "Causes of Blindness in Children of School Age," *The Sight Saving Review*, Spring, 1958, p. 10; Foote, F. M., "The Nationwide Fight Against Blindness," *Public Health Reports*, November 1956, p. 1,137; Hurlin, R. G., "Estimated Prevalence of Blindness in the United States, July 1952," *Social Security Bulletin*, July 1953, p. 8.

Psychological preparation for surgery*

Charles S. Brant, Ph.D., Herbert Volk, M.D., Med.Sc.D., and Bernard Kutner, Ph.D.†

Nearly all practicing surgeons would agree in principle that a total-care approach to the management of patients undergoing surgery should include careful psychological preparation. But such preparation for emotional and social problems resulting from hospitalization, surgery, convalescence, and rehabilitation is not always regarded as essential to comprehensive medicine, even though the literature attests to its importance. Kaufman[1] writing of the patient's need for emotional support, states:

"The patient must be emotionally prepared to accept necessary surgery without undue anxiety and fear. Everything must be directed toward reducing the psychological stress and trauma of anesthesia and surgery to a minimum. The patient must receive the emotional support he needs and deserves during the immediate postoperative periods. . . . A properly utilized half hour or hour of psychological preparation may give the patient sufficient emotional security to obviate preventable psychosomatic complications. Furthermore, it seems to me that such briefing reduces the patient's anxieties and fears to such an extent that he takes the anesthesia better and has less postoperative pain and discomfort. . . . And he seems to make speedier recovery from the effects of surgery than the patient who is emotionally unprepared. This is equally true for emotionally normal patients as it is for neurotic patients."

Dyk and Sutherland[2] also stress the surgical patient's need for emotional guidance and rapport with his surgeon. In their study of colostomy patients they found that "anxiety and fear of injury, in some cases mounting to confusion, panic, or despair, were reported by all as reactions to impending surgery."

In another report, concerned with depressive reactions of patients to cancer surgery, Sutherland and Orbach,[3] after speaking of anxieties about the nature of the disease, the impending surgery, possible death, or postsurgical social isolation and inacceptability, commented:

"These reactions are particularly prone to occur when the patient is unable to relate to medical personnel. . . . Mistrust is reinforced by the impersonality of clinic and ward procedures and the 'faceless surgeons.' To one depressed patient, surgery represented being cut up by a group of strangers."

*Reprinted from *Public Health Reports*, November 1958.

†Dr. Brant is assistant professor of anthropology and sociology, Portland State College, Portland, Oreg., and was formerly research associate in surgery at the Albert Einstein College of Medicine. Dr. Volk is assistant professor of preventive and environmental medicine at the Albert Einstein College. Their research was supported by the Russell Sage Foundation and by a grant from the National Institutes of Health, Public Health Service.

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Elsewhere, Sutherland[4] wrote: "Apparently prophylaxis is the best treatment. A warm relationship between the patient and the physician is essential. This relationship should permit the doctor to be seen as protective rather than threatening; it should permit easy communication and discussion of irrational beliefs and misconceptions. . . .

"A good patient-physician relationship, beginning with the initial diagnostic examination, is the patient's best guarantee against the development of crippling beliefs and their expression in unnecessary restriction of activities."

Others have emphasized the surgical patient's need for information and explanation. For example, the widely known standard textbook, Babcock's Principles and Practice of Surgery,[5] states:

"Perhaps the best preparation for surgery is for the patient to know his surgeon. Many times contact with the surgeon is so limited that countless questions go unanswered, causing the patient great worry. It is necessary for the surgeon to explain the purpose of the surgery. While this may be quite obvious to him, it is not always obvious to the patient. . . . Patients want to know what is to be done and why."

In an essay written in 1928, Cabot,[6] referring to the impact of the hospital environment upon the patient, said: "The patient finds himself facing a new and often terrible situation. To enter the hospital is often for him the most momentous event of his life, and he needs all the help that can be given him to understand it."

Although every physician appreciates the importance of a sound physician-patient relationship, and every surgeon knows that his patient is a sentient human being with hopes and fears that affect his attitudes toward treatment, we have found that the interpersonal and communicative aspects of the physician-patient relationship in surgical practice are comparatively too often neglected. Generally, in private surgical practice, the physician is keenly aware of his patient's needs. However, since a substantial number of surgical patients receive care from physicians in surgical residency in government-supported hospitals, gaps may appear between patient needs and surgical practice. In 1954, an estimated 1,657,550 surgical patients were discharged from government-supported hospitals in the United States.[7] Presumably, the resident staff treated the vast majority of these patients as well as an undetermined proportion of some 6½ million surgically discharged patients in non-government-supported hospitals.

PURPOSE OF STUDY

The teaching hospital is one strategic setting for developing in young physicians a comprehensive approach to medical care centered upon the patient. It is here, as intern and resident, that the young physician may acquire, through intensive instruction and by demonstration, example, and practice many of his most important skills and his basic attitudes about patient care.

In order to examine relationships and attitudes between physician and patient, we undertook an exploratory study of the surgical service of the Bronx Municipal Hospital Center, which is the teaching hospital of the Albert Einstein College of Medicine, Yeshiva University. Most of the patients, house-staff members, and nurses interviewed and observed were on the general surgical service. The study was conducted during the second year of the hospital's existence, a period when the organization of services and activities was formative rather than firmly established. Other relevant background factors were: (*a*) the medical school with which the hospital is affiliated was also in its second year of existence; students, therefore, had not yet begun serving clinical clerkships; (*b*) the surgical service was frequently extremely busy, with wards filled to capacity or nearly so; (*c*) there was an acute shortage and considerable turnover of experienced graduate nurses, practical nurses, and nurses' aides; (*d*) emergency cases constituted a large percentage of the total work of the surgical service; and (*e*) the patient population was largely geriatric immigrants of European origin and had language difficulties and environmental handicaps.

PROCEDURES

Before and after operations, we interviewed 50 surgical patients, unselected except for diagnosis. The selected diagnoses were gastrointestinal, genitourinary, gall bladder, peripheral vascular, respira-

tory, and skin disorders. Formal interviews were held with a sample of the resident surgical staff and graduate nurses on the surgical wards, and informal interviews, of varying length and depth, with a sample of interns serving on the surgical service. We also observed interactions between physicians and patients receiving treatment on the wards, during teaching rounds conducted by the attending surgeons and in the recovery room.

RESULTS

Some qualitative findings from the study throw light on the question: What are the inherent problems, difficulties, or obstacles in developing total care for surgical patients in a teaching hospital setting? Other findings from this study have been presented in somewhat different contexts.[8,9]

Case 1. A 66-year-old retired, unmarried, white woman came to the hospital because she had noticed 2 weeks earlier two small lumps in one of her breasts. When she noticed the lumps, the patient stated, she believed they were due to nervousness, for which she sought relief. In the clinic, the physician said that the lumps were "something serious" and that she should enter the hospital for treatment. At that point, the patient asked if she couldn't go home and return in 2 days, a request made, she admits, for the purpose of avoiding hospitalization. She was dissuaded from this course and admitted to the inpatient surgical service.

Following admission, the surgical staff decided that the patient should have a biopsy and possibly radical mastectomy. The intern assigned to the case told the patient it was necessary to remove "a little" of the lumps, that then they would probably "go further" with surgery, perhaps removing the entire breast, although they hoped it could be avoided, and that following this surgery, the patient would receive "some treatments." The patient ventured anxiously, "I hope it's not too serious." The physician replied, "No, no. Now you just smile and don't worry." The patient then signed the consent-for-surgery form and the intern left. The patient stated in the preoperative interview that she was nervous and afraid of surgery and recalled postoperative pain from a hemorrhoidectomy some years earlier. She added that it was a shock to her to come to the hospital for relief of nervousness and be hospitalized for surgery.

The surgery consisted of a biopsy and simple mastectomy, followed by radiotherapy.

At postoperative interview, the patient stated that going to the operating room she felt frightened and worried about survival, and regretted she didn't tell her friends goodbye, just in case she didn't return. When she awakened from anesthesia, she knew vaguely that she was "somewhere"; she heard only footsteps and it seemed very quiet. Her first feeling was again of being afraid and wondering if her breast was gone. This question went unanswered until the morning of the first postoperative day, when

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the intern told her only a small portion of the breast was removed and that she would receive "at least two" radiotherapy treatments. The patient thought she still felt a lump, and the intern explained that what she felt were sutures. The patient told us that she wanted to know what caused her trouble and what she would need to do to care for herself at home but felt "too timid" to ask questions of the doctors.

A few days after the operation the patient received her first radiotherapy. Interviewed the following day, she stated that the experience was very frightening: The sight of instruments on a table in the radiotherapy room made her fearful that further surgery was planned, and the radiotherapy equipment itself, upon being lowered over her, was fear provoking. Nothing the patient could recall indicated that the radiotherapy procedures had been explained to her.

Here we see manifestly an anxious, elderly lady, in whom ignorance concerning cancer or denial of the illness was operating. Proper psychological management of her case required a fuller understanding of her emotional responses to the ominous news of possible major breast surgery and even death. Fear of surgery, concern over removal of a breast, and anxiety about one's death are the most common emotions found in patients with breast disease. If they are not dealt with directly, patients go to and return from surgery with unrelieved apprehensions.

Case 2. A 50-year-old white salesman with a long history of diabetes entered the hospital with circulatory insufficiency in the right leg. He was scheduled for a below-knee amputation and subsequent transfer to the rehabilitation service for reambulation and prosthesis.

Prior to admission, the patient had been treated unsuccessfully for almost 1 year at several hospitals. The interview disclosed that the failure of therapies had led the patient to lose considerable confidence in physicians. While on the operating table under spinal anesthesia at another hospital, the patient had been acutely distressed upon hearing the surgeons dispute improper functioning of their equipment. This caused him to feel he was in the hands of incompetent people

The patient, accustomed to a very active life, was most anxious to learn how long his treatment and rehabilitation would keep him from returning to work. He felt that the year already consumed was "like a lifetime." Five days after the operation, one physician informed the patient that he would go to the rehabilitation service soon, and in "no time at all" he would be up and on his way home. He was also assured that a modern prosthesis is usually easy to fit and to use.

Unfortunately, the patient developed a wound infection which necessitated continued treatment on the surgical ward. He developed a reactive depression and complained vociferously. The intern assigned to the case was annoyed by the patient's temperament and demands, feeling there was nothing he could do for the patient beyond changing his dressings daily.

When the infection cleared and the patient was transferred to the rehabilitation service, he stated that he felt much better because now he was "getting somewhere."

This case reveals the need to counsel the patient who has been through prolonged and varied therapy without positive result so that he may understand the rationale of the planning and maintain his confidence in the medical profession. It points up the consequence of overoptimistic and unqualified statements about the length of treatment and rehabilitation, and the need to apprise the patient realistically of what lies ahead before he can resume his regular activities. As for a patient with major rehabilitation facing him, the doctor's role is by no means confined to the immediate medical treatment. The intern, in this particular case, instead of reacting with a sense of personal annoyance to his patient's anxieties, might have devoted some time to psychological support and viewed his patient's temperamental response as an aspect of the patient's anxiety about the future.

Case 3. A 17-year-old high school girl entered the hospital complaining of dysuria. She was scheduled for cystoscopy 2 days later.

When interviewed, the patient was asked to relate what she believed her

trouble was and what the doctors were planning to do for her. In an angry mood, she said: "Dr. L. said they are going to do some kind of examination on me, tomorrow, I think. They say there is something wrong with my kidneys, but they didn't say what. I'd like to know why a young person like me should have kidney trouble, but Dr. L. is always rushing around all the time and I don't get a chance to ask him anything. He doesn't talk to you like a patient." When asked what she meant by the last sentence, the patient said that she had been in another hospital where the doctors explained things to her.

On the day of the scheduled cystoscopy, the interviewer learned that it had been cancelled because the patient's parent had not come to the hospital to give consent for the procedure. The patient had learned that the proposed examination was a cystoscopy, and, having previously had this procedure and finding it painful, prevailed upon her parent not to consent. The patient was discharged to be followed in clinic.

It is evident that in addition to being anxious about a painful diagnostic procedure, the patient wanted the physician to tell her the reason for her illness and the procedure that would be followed. The physician-patient relationship was so undeveloped and communication with the patient was so minimal that the patient acted against medical advice and her own interests. The value of forthright, even if brief, explanation of procedures and planning, presented in a manner that will not alarm the patient, cannot be overestimated. An impersonal attitude toward the patient is one of the contributing factors in the failure of patients to follow medical advice.

Case 4. A 47-year-old married man was sent to the hospital by his private physician, who had told him that an X-ray showed a shadow on part of one lung and that this might be a tumor. He was given the same diagnosis by staff physicians in the hospital.

The patient's conception of the intended treatment was "an operation on the part of the lung with the shadow." This was to be done the following day.

Asked if he had questioned the staff physicians about his illness or the planned surgery, the patient said: "Oh, yes. The doctors told me they would like me to ask them about anything that was on my mind. I wondered if the tumor in my lung couldn't be cured by radium. They explained that the best way to be sure I would be cured would be to take the tumor out completely. I believe I really felt a little afraid of an operation on my lung since my family doctor wouldn't even do one on the hernia that I've had a long time. I told the doctors here about this, and they explained to me that this was because the lung problem was more urgent. They assured me that all the tests showed my general health was sound and that I could take the lung surgery without any danger." The patient added that he felt very relieved to have had things cleared in his mind through discussion with the staff physicians, because he had been quite upset when he first learned he required lung surgery.

Interviewed after the operation, the patient related that he felt he was getting fine treatment and singled out the staff surgeon's visits and comments about his progress as making him feel better both physically and mentally. His only problem was wanting to get up and around a little sooner than the surgeon wanted him to.

This case demonstrates as clearly as any studied the value of briefing the patient factually about postoperative events: He knew that he would awaken in the recovery room, where special care would be given; that he would be expected to cough, and the reason why; that there would be a drainage tube coming out from the operative area; that he would be on a restricted diet for a time; and that he would begin ambulation about 2 days postoperatively.

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DISCUSSION

We introduced the above case studies with a question to which we now return: What are the inherent problems, difficulties, or obstacles in developing total care for surgical patients in a teaching hospital setting? Perhaps the central problem lies in the house officer's definition of his tasks in medical care and the purposes served by the institution. Quite obviously, he is there to learn, and to service hospital patients. Indeed, one may say that his purpose is to learn through serving. In the process of being a physician, he acquires knowledge and skills and ex-

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*Kugel, I. H., New local treatment for psoriasis, with report of 21 cases, *M. Rec.* 151:397, 1940. Ant, M., Local treatment of psoriasis, including a review of medical literature, *M. Times* 85:1397, 1957.

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tends his experience, which in turn make him a better physician. For the resident, the purpose is to learn to be a surgeon; for the intern, it is to learn more about surgery and care of surgical patients, perhaps as a preliminary to entering surgical residency training, perhaps only as part of general medical training.

The matter becomes somewhat more complex, however, when one goes beyond the obvious functions of the house officer and asks: What, is his conception of his role or task? What does he regard as relevant and significant knowledge to acquire, and what services should he provide? We find, in answer to these questions, that the house officer is more often than not preoccupied with the technical and mechanical aspects of surgery. The desire to communicate with the patient and to develop sound interpersonal relations is regarded as a luxury not expected in nonprivate practice. The ways in which these views are manifested vary from patient to patient and have differing consequences, as the illustrations indicate. In case 4, where the preparation for surgery was exemplary, the patient went to surgery with minimal anxiety and during postoperative convalescence cooperated fully and cheerfully, because he understood what was necessary and required of him.

RECOMMENDATIONS

Planning for the development of an improved program for the total care of surgical patients in teaching hospitals must include standards for house staff practice and means of implementing these standards. Standards of practice should incorporate the following:

1. In addition to the basic physiological preparation of the patient for surgery, attention should be given to psychological factors. During, immediately after, and at regular intervals following admission to the surgical service, the medical staff alone or in conjunction with nursing and social work personnel should evaluate, by physiological and discursive means, the level of and changes in the patient's anxiety about hospitalization and surgery.

2. Hospital rules and regulations and normal procedures of examining, testing, and caring for vital functions should be explained to the patient upon admission and thereafter as indicated.

3. When the time for surgery has been scheduled, the patient should be informed as promptly as possible. Such information should be withheld until the last possible moment only in those instances in which receipt of such information is felt to be detrimental to the patient's general health.

4. In every instance the nature of the operation and the reasons for its being performed should be explained to the patient in terms he is capable of understanding, without necessarily revealing the diagnosis if this is deemed inadvisable (for example, to remove an "obstruction"; to "relieve pressure"). The patient or his family should not be guaranteed by the house officer the successful outcome of surgery.

5. In every instance the choice and type of anesthetic to be used should be explained to the patient by the anesthesiologist on the day or evening preceding the operation. Whenever possible, such explanation should be given in emergency cases.

6. Preoperative preparation should include explanation of the physical preparation, transportation to the operating room, nature of the operating room, use of the recovery room (in cases where it is used), and length of time that will elapse before return to the ward.

7. Explanation of postoperative pain and other discomforts should be given the patient in advance of surgery.

8. Before the operation, the patient should be prepared for postoperative parenteral alimentation, drainage tubes, dressings, respiratory activity, range of mobility, and time of ambulation.

9. After the operation it is the surgeon's responsibility to discuss the results of surgery, the probable consequences, and the anticipated length of hospitalization and convalescence.

10. The surgeon should discuss the operation and its consequences with the referring physician and responsible members of the patient's family.

The means by which these standards of practice may be implemented are:

1. At the start of the hospital year, the house staff should be oriented through lectures, films, articles, and demonstra-

tions dealing with the total care of surgical patients.

2. At evaluation conferences, house staff members (residents universally and interns where possible) should be given an opportunity to present cases completely worked up from surgical, social, and psychological points of view.

3. Each resident should be given specific instruction and supervision in the psychosocial, presurgical preparation of his patients and in the psychological, postsurgical management of his patients.

4. Teaching rounds should include a psychosocial evaluation of the patient's status and specific coverage of patient responses to the outcome of surgery.

5. Each resident should be instructed and supervised in methods of interviewing the patient and discussing with him and his relatives his problems.

6. Responsible senior surgeons periodically should rate and discuss ratings with residents and interns on the house officer's performance of the psychosocial aspect of his work as well as other aspects.

7. Psychiatrists, social workers, and social scientists should collaborate in these activities designed to improve physician-patient relationships.

SUMMARY

For the surgeon-in-training, the exigencies of a heavy work schedule, large patient load, and necessity of mastering the specialized knowledge and techniques of an increasingly complex field leave little opportunity for him to become versed in the recognition and management of a patient's psychosocial needs. Such needs are recognized in surgical literature and by experienced practitioners and teachers of surgery, but they are often inadequately met. Standards of practice as well as steps to implement them are outlined, so that ideal surgical practice with respect to these needs may be approximated in the teaching hospital.

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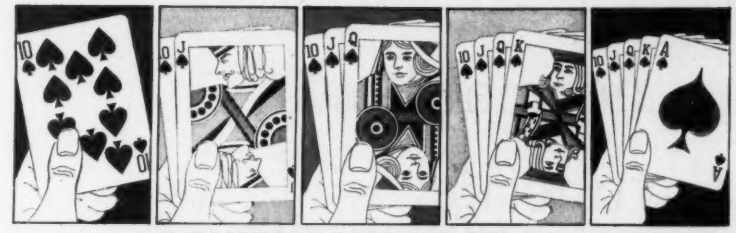

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Added bed capacity has enabled hospitals to admit an additional number of patients, but a more important factor has been the reduction in average length of hospital stay. The widespread use of antibiotics and other drugs in the treatment of infections, early ambulation—particularly after surgery and childbirth—and, more recently, the use of tranquilizers have measurably shortened the average duration of hospitalization. Thus, the average length of stay in hospitals of all types—including psychiatric and tuberculosis—decreased from 37.4 days in 1937 to 21.0 days in 1957, a reduction of

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In part, the increase in hospital admissions reflects the growing number of hospitalized births. In the past two decades, the number of babies born in hospitals has quadrupled as a result of the rise in both the birth rate and the proportion of births occurring in hospitals. It is estimated on the basis of data from the National Office of Vital Statistics that in 1957 about 4 million births, or 95 percent of the total, were in hospitals; in large areas of the country the proportion is just short of 100 percent. Maternity cases currently account for about one sixth of all admissions to hospitals.

The proportion of hospitals having special equipment for diagnosis and treatment has increased appreciably in the past decade. In 1957, at least 90 percent of hospitals had clinical laboratories, electrocardiograph equipment, basal metabolism apparatus, or X-ray diagnostic service. About three fifths of the hospitals had blood banks, more than twice the proportion only a decade earlier. A considerable percentage are now equipped with special nurseries for premature babies, postoperative recovery rooms, or radioactive isotope therapy departments, whereas in 1947 such facilities were few or nonexistent. It is also apparent that all but a small proportion of the large hospitals have a wide variety of special equipment.

A rapidly increasing number of people are availing themselves of the benefits of voluntary health insurance to cover hospitalization and other medical costs. According to estimates by the Health Insurance Council, as of June 1, 1958, about 123 million people in the United States—72 percent of the total civilian population — were protected against the cost of hospital expenses through voluntary insurance; this is about twice the total covered only a decade earlier. At the same time, the number of people protected against surgical expense rose from 34 million to 111 million, while those covered by regular medical expense insurance increased from 13 to 74 million. Although it has become available only recently, major medical insurance—designed to help pay for unusually heavy medical costs—has grown by leaps and bounds. As of June 1, about 15 million people were covered by this type of insurance, more than triple the number insured against this hazard only three years earlier.

Hospitals are not only increasingly serving as the focal point of medical practice and as centers for community health education, but they are also contributing more and more to the advancement of medical knowledge through research activities. Our hospitals have been a significant force in raising the level of medical care in our country to a remarkably high level, and the outlook is that they will play an even more important role in the years ahead.

Books received

Books received for review during the period from November 5 to December 5 are listed below. Reviews will be published as space permits.

COURTROOM MEDICINE. Compiled and Edited by Marshall Houts, Member of the Tennessee and Minnesota Bars; Formerly, Special Agent of the Federal Bureau of Investigation; Formerly of the Office of Strategic Services; Judge, General Counsel to The Court of Last Resort. Cloth. Pp. 511, with illustrations. Price $14.00. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois. 1958.

TREATMENT IN INTERNAL MEDICINE. By Harold Thomas Hyman, M.D., Diplomate of the American Board of Internal Medicine; Consulting Physician, Monmouth Memorial Hospital, Long Branch, and Riverview Hospital, Red Bank, New Jersey. Formerly: Assistant Professor of Pharmacology, Columbia University; Associate Attending Physician, The Mount Sinai Hospital, New York; Attending Physician, The Montefiore Hospital, New York. With a Foreword by Walter C. Alvarez, M.D. Cloth. Pp. 609, with illustrations. Price $12.50. J. B. Lippincott Company, East Washington Square, Philadelphia 5, 1958.

BREAST CANCER. The Second Biennial Louisiana Cancer Conference, New Orleans, January 22-23, 1958. Edited by Albert Segaloff, M.D., Director of Endocrine Research, Alton Ochsner Medical Foundation; Associate Professor of Clinical Medicine, Tulane University School of Medicine. Cloth. Pp. 257, with illustrations. Price $5.00. The C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, 1958.

THE CLINICAL EXAMINATION OF THE NERVOUS SYSTEM. By G. H. Monrad-Krohn, M.D., F.R.C.P., Professor Emeritus of Medicine (Neurology) in the University of Oslo. Ed. 11. Revised by the Author with the assistance of Sigvald Refsum, M.D., Professor

of Medicine (Neurology) in the University of Oslo; Physician-in-chief to the Neurological University Clinic, Oslo. Cloth. Pp. 466, with illustrations. Price $9.50. Paul B. Hoeber, Medical Book Department of Harper & Brothers, 49 East 33rd Street, New York 16, 1958.

LESIONS OF THE LOWER BOWEL. By Raymond J. Jackman, M.D., M.S. in Proctology, Section of Proctology, Mayo Clinic, and Associate Professor of Proctology, Mayo Foundation, Graduate School, University of Minnesota, Rochester, Minnesota. Cloth. Pp. 347, with illustrations. Price $15.50. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1958.

SYSTEM OF OPHTHALMOLOGY. Volume 1. The Eye in Evolution. Edited by Sir Stewart Duke-Elder, G.C.V.O., M.A., LL.D., Ph.D., D.Sc., M.D., D.M., F.R.C.S., F.R.C.S.E., F.A.C.S., F.R.A.C.S. Cloth. Pp. 843, with illustrations. Price $27.50. The C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, 1958.

NUTRITION IN HEALTH AND DISEASE. By Lenna F. Cooper, B.S., M.A., M.H.E., Sc.D., Consulting Dietitian and Formerly Chief of the Department of Nutrition, Montefiore Hospital, New York City. Formerly Food Director, University of Michigan, Dean of School of Home Economics, Battle Creek College, and Supervising Dietitian, U.S. Army, World War I. President, American Dietetic Association, 1937-1938; Edith M. Barber, B.S., M.S., Writer and Consultant, Food and Nutrition. Food Editor, General Features Syndicate. Formerly Food Editor, New York Sun, and Lecturer on History of Cookery and Public Relations for Home Economists, Teachers College, Columbia University; Helen S. Mitchell, A.B., Ph.D., Dean of the School of Home Economics, University of Massachusetts. Formerly Research Professor of Nutrition, University of Massachusetts; Principal Nutritionist, Office of Defense, Health and Welfare Services; and Professor of Physiology and Nutrition, Battle Creek College; and Henderika J. Rynbergen, B.S., M.S., Associate Professor of Science, Cornell University-New York Hospital School of Nursing. Formerly Director of Dietetics, American University Hospital, Beirut, Lebanon; Food Clinic Dietetian, Vanderbilt Clinic, Presbyterian Hospital, New York; Food Clinic Dietitian, Barnes Hospital, St. Louis; and Nutritionist, Community Health Association, Boston. Ed. 13. Cloth. Pp. 734, with illustrations. Price $6.00. J. B. Lippincott Company, East Washington Square, Philadelphia 5, 1958.

TEMPORAL LOBE EPILEPSY. A Colloquium Sponsored by the National Institute of Neurological Diseases and Blindness, National Institutes of Health, Bethesda, Maryland; In Cooperation with the International League Against Epilepsy. Edited by Maitland Baldwin and Pearce Bailey. Co-Editors, Cosimo Ajmone-Marsan, Igor Klatzo, and Donald Tower. Cloth. Pp. 581, with illustrations. Price $15.50. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1958.

ESSENTIALS OF CLINICAL NEUROANATOMY AND NEUROPHYSIOLOGY. By John T. Manter, Ph.D., M.D., Associate Professor of Psychiatry and Neurology, Medical College of Georgia. Paper. Pp. 137, with illustrations. Price $3.00. F. A. Davis Company, 1914-16 Cherry Street, Philadelphia 3, 1958.

HANDBOOK OF CARDIOLOGY FOR NURSES. By Walter Modell, M.D., F.A.C.P., Associate Professor, Cornell University Medical College; Attending Physician, New York Veterans Administration Hospital; Associate Attending Physician, Bellevue Hospital; and Doris R. Schwartz, B.S., R.N., Associate Professor, Cornell University-New York Hospital School of Nursing; Public Health Nursing Coordinator, Comprehensive Care and Teaching Program, The New York Hospital-Cornell Medical Center. Ed. 3. Cloth. Pp. 328. Price $4.50. Springer Publishing Company, 44 East 23rd Street, New York 10, 1958.

PRIVILEGED COMMUNICATIONS BETWEEN PHYSICIAN AND PATIENT. By Clinton DeWitt, Professor of Law, Western Reserve University, Cleveland. Cloth. Pp. 528. Price $11.50. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1958.

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PATIENTS, PHYSICIANS & ILLNESS. Sourcebook In Behavioral Science and Medicine. Edited by E. Gartly Jaco, associate professor of medical sociology, University of Texas Medical Branch. Cloth. Pp. 600. Price $7.50. The Free Press, 119 West Lake Street, Chicago 1, 1958.

CARDIAC ARREST AND RESUSCITATION. By Hugh E. Stephenson, Jr., M.D., Professor and Chairman, Department of Surgery, University of Missouri School of Medicine, Columbia, Missouri; Chief of Surgical Service, University of Missouri Hospitals; Associate-in-Charge, Cardiovascular Program, State Crippled Children's Service, University of Missouri; Consultant, Whiteman Air Force Base Hospital; Markle Scholar, John and Mary R. Markle Foundation, 1954-1959. Cloth. Pp. 378, with illustrations. Price $12.00. The C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, 1958.

METHODS FOR RESEARCH IN HUMAN GROWTH. By Stanley M. Garn, Ph.D., Chairman, Physical Growth Department, Fels Research Institute, Yellow Springs, Ohio. Zvi Shamir, M.D., M.P.H., Chief Physician, Department of Pediatrics, Hadassah-Hebrew University Hospital and Medical School, Jerusalem, Israel. Cloth. Pp. 121, with illustrations. Price $4.75. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1958.

CARDIOVASCULAR SOUND in Health and Disease. Being a Comprehensive Treatise, Introduced by a Historical Survey, Illustrated Mainly by Sound Spectrograms (Special Phonocardiograms) and Supplemented by an Extensive Bibliography; With a Section on Respiratory Sound. By Victor A. McKusick, M.D., Associate Professor of Medicine, The Johns Hopkins University School of Medicine; Physician, the Johns Hopkins Hospital. Cloth. Pp. 570, with illustrations. Price $15.00. Williams & Wilkins Company, Mount Royal and Guilford Avenues, Baltimore 2, Maryland, 1958.

CLINICAL OBSTETRICS AND GYNECOLOGY. Volume 1 Number 3, Symposium On Abnormal Uterine Bleeding. Edited by

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John I. Brewer, M.D., Symposium On Special Diagnostic Aids. Edited by C. Paul Hodgkinson, M.D. Cloth. Pp. 852, with illustrations. Paul B. Hoeber (Medical Book Department of Harper & Brothers), 49 East 33rd Street, New York 16, 1958.

EMOTIONAL PROBLEMS OF CHILDHOOD. Edited by Samuel Liebman, M.D., Medical Director, North Shore Hospital, Winnetka, Ill.; Clinical Assistant Professor of Psychiatry, University of Illinois College of Medicine. Cloth. Pp. 176, with illustrations. Price $5.00. J. B. Lippincott Company, East Washington Square, Philadelphia 5, 1958.

TUMORS OF THE LUNGS AND MEDIASTINUM. By B. M. Fried, M.D., F.C.C.P., Associate Attending Physician, Montefiore Hospital; Associate Visiting Physician, Morrisania City Hospital, New York, New York. Cloth. Pp. 467, with illustrations. Price $13.50. Lea & Febiger, Washington Square, Philadelphia 6, 1958.

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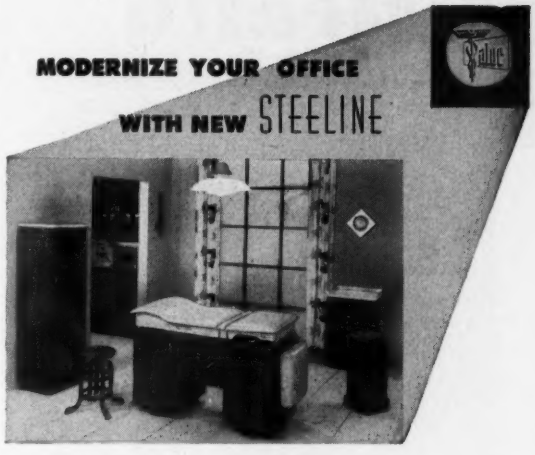

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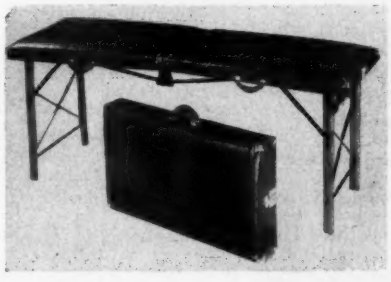

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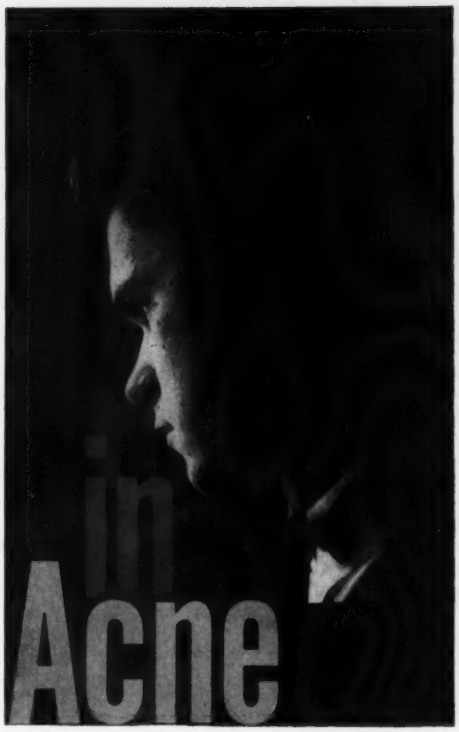

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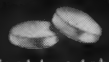

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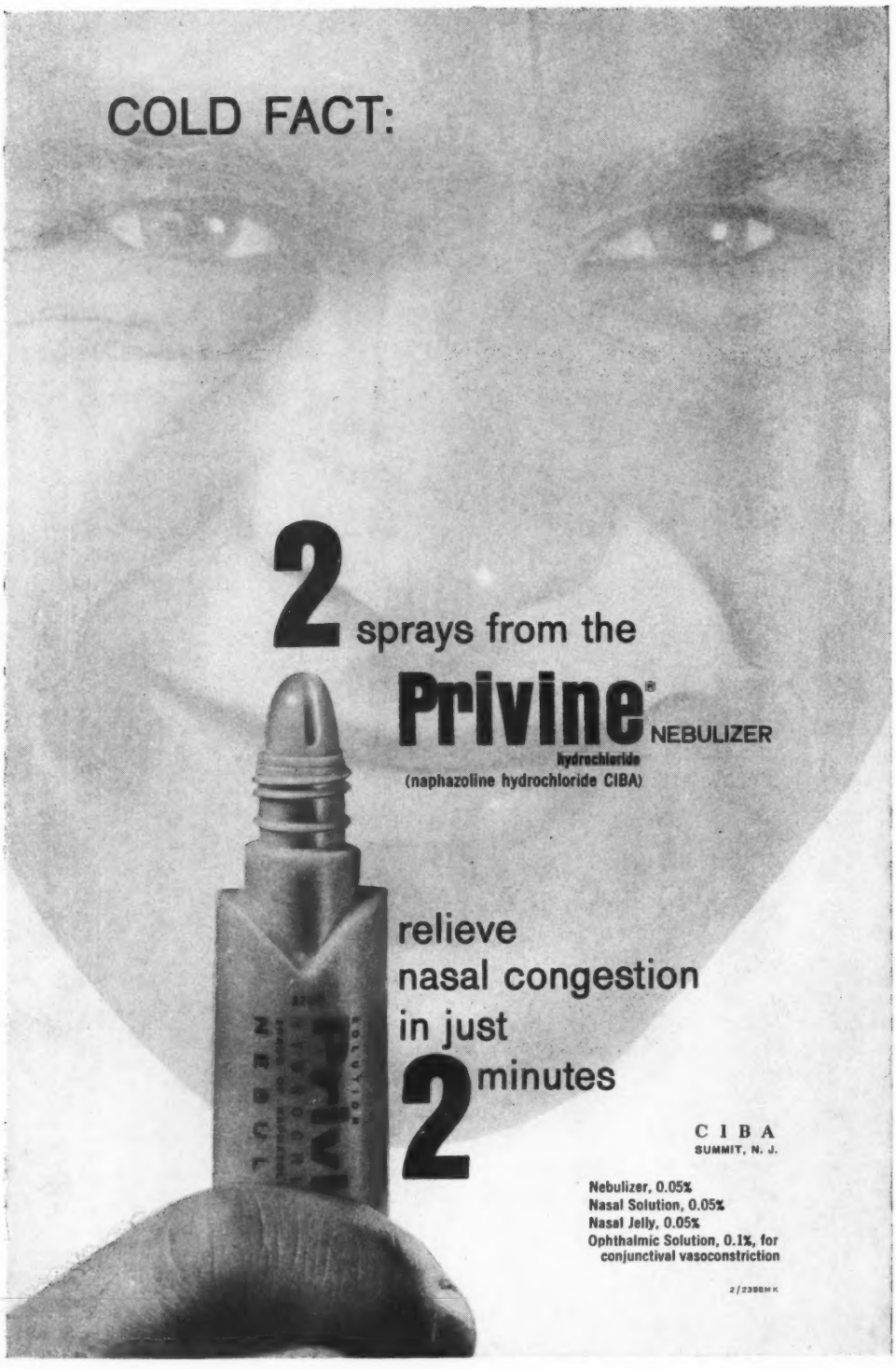

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